THE PRODUCTION AND MANAGEMENT JOURNAL OF THE NORTH AMERICAN PULP AND PAPER INDUSTRY

PULP & PAPER

"the Cellulose Age"

OCTOBER 1952 VOL. 26-NO. 11

GROVETON——ON NEW HAMPSHIRE'S UPPER AMMONOOSUC——"ALMA MATER" TO MANY INDUSTRY MEN

IN THIS ISSUE: Story with Pictures of the New Groveton and First Semi-Chemical Plant in New England.

OTHER EXCLUSIVE FEATURES: NEWSPRINT SPEED AT BAIE COMEAU ——LAGOONING STRAW WASTE IN INDIANA

DISSTON does it faster... BETTER

You can fell the biggest when you've got a DO-101 equipped with a helper handle.

There's no binding here. Bucking is a pleasure with the new DA-211 25" Bow Saw.

THERE IS A DISSTON CHAIN SAW WITH MERCURY GASOLINE ENGINE FOR EVERY WOODCUTTING JOB

DO-101 with helper handle

One-Man DO-101

DO-101 16" Bow Saw

DA-211 with helper handle

DA-211 25" Bow Saw

Here's a money-making combination for you . . . the most famous lightweight one or two-man chain saw in America, the DO-101, and the powerful new two-man DA-211 that packs a full 9 hp. Remember, every saw in the Disston line is a professional first-quality tool, the choice of men who work with power saws for a living.

All Disston Saws are powered by reliable, air-cooled, 2 cycle Mercury Gasoline Engines. They have self-rewinding starters, automatic chain lubrication, guide rails and cutting chains of famous Disston steel. A complete line of attachments is available for every cutting need.

The DA-211 is perfect for the farmer who has a lot of wood to cut. It will handle all sized timber . . . slicing through 18" oak in less than 16 seconds. The DO-101 is a time and labor saver in preparing fence posts, barn timbers, wood for fuel, or in harvesting woodlot timber at off-season times. It can be converted quickly into a lightweight two-man unit with rail lengths up to 40".

Your Disston dealer will be glad to demonstrate any of these fine saws. For his name, write HENRY DISSTON & SONS, INC., 21J Tacony, Philadelphia 35, Pa. *In Canada*, write 2-20 Fraser Ave., Toronto 3, Ont.

FREE! *Send for your free copy of the new fact-packed and picture-packed booklet "How to Cut Costs and Make Money with Disston Chain Saws."*

3 Big Advantages

1. Heat recuperation chain system adds heating surface . . . cuts dust loss . . . results in lower fuel consumption!

2. Two-diameter design with smaller feed end lengthens preheating zone . . . increases retention time . . . cuts fuel costs!

3. Enlarged firing zone provides greater internal volume for fuel combustion . . . plus greater heat transfer area!

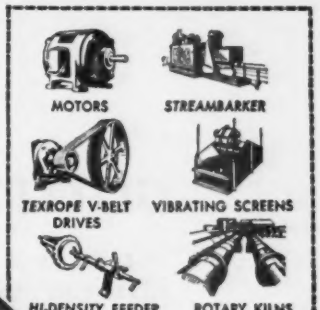
USERS EVERYWHERE report low processing costs with these new Allis-Chalmers lime sludge kilns. These higher efficiencies are a direct result of constant improvements in rotary kiln design, but they tell only a part of the story of the new, modern Allis-Chalmers rotary kilns. For example, the new 20-degree involute spur gear drive gives even distribution of force from pinion to gear . . . contributes to smooth operation . . . long life.

AUXILIARY EQUIPMENT — Allis-Chalmers also supplies feeders, slakers, burning equipment, dust collectors and fans, and master control panel equipment as well as motors and complete drive equipment.

GET THE COMPLETE STORY — See your A-C representative . . . he will put you in touch with our specialized engineering service. For general kiln information request Bulletin 07B6368. For engineering information on lime recovery request Bulletin 07R7010. Allis-Chalmers, Milwaukee 1, Wis.

A-3684

Texrope, Hi-Density and Streambarker are Allis-Chalmers trademarks.



ALLIS-CHALMERS AC ALLIS-CHALMERS *AND OTHER EQUIPMENT FOR PAPER MAKING . . .*

A MILLER FREEMAN PUBLICATION

PULP & PAPER
"The Cellulose Age"
PRODUCTION AND MANAGEMENT JOURNAL OF THE NORTH AMERICAN PULP AND PAPER INDUSTRY

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What a Future This Industry Has!

This is an industry with a real future. Dr. L. R. Thiesmeyer, president of the Pulp & Paper Research Institute of Canada, and therefore the highest research spokesman for this industry in that country, is the authority for that statement.

He predicted a specially bright future of pulp and paper, and said demand for its products will continue to increase and multiply, in a very important address which he made before the recent Forestry Conference of six British Commonwealths.

"Any increase in the world's population in the past half century has been outstripped by far by the increased use of paper," delegates were told by Dr. Thiesmeyer, who said, "this startling fact shows the impact of the pulp and paper industry on forest practice and perhaps gave an indication of developments in literacy and culture."

In noting that only eight percent of the annual production from the world's 8,000,000,000 acres forest estate was used for pulp, Dr. Thiesmeyer said these developments had necessarily been reduced enormously in the last 50 years, despite a rise in production. "Today more species of trees are being used for pulp production," he said. "A greater percentage of fiber is obtained from the raw material, more use is made of mill waste and a wider market is being found for by-products."

In the clash of ideologies now engrossing the world "paper is veritably a weapon of war", he said. "Demands for it will increase."

A Renewable Raw Material

"Unlike many industries such as iron, copper, aluminum, coal, etc., which process a natural resource, the basic raw material for our mills is renewable by planting, selective cutting, and similar forestry practices, and can, with proper attention, be kept in perpetual supply." *C. B. MORGAN,* President, Rayonier, Inc.

How New Paper Uses Are Born

It is in a weak market that new paper uses are born—"something new to stimulate sales"—in the opinion of William Mazer, executive vice president of Hudson Pulp & Paper Corp.

Quoted in a management forum discussion in *Industrial Marketing,* he said in his company "when a new product is conceived it goes through a gestation period during which every department contributes toward its development and introduction."

While economic conditions were not rated as an important factor by him, he did say a seller's market tended to preserve the status quo as far as new uses and products were concerned as it offered "a wonderful opportunity to capitalize on an existing market."

Paper—Symbol of Freedom

"Imagine America without Paper"—theme of Beloit Iron Works recent series of full page ads brought a lot of favorable comment, including a valued letter from Danny Kielock of Nazareth, Mich. He wrote:

"Our teacher asked us to write to the company we liked best from reading their advertisements and I liked yours. Any American can see the truth oozing over the rim of your ads.

"Without paper America would be lost. The rock would take its place and the hammer and chisel would take the place of the pencil. The pounding would drive the teacher hysterical and the mailman would break his back with letters weighing 6 lbs. each. Paper boys would have to take a truck instead of a bike and couldn't throw them on the porch. You see I'm a paper boy."

Replying to Danny's letter, Harry C. Moore, Beloit president, recalled his paper selling days in Chicago as a boy, and he pointed out that the average American uses 381 lbs. of paper per day (1951) and the latest figure on Russia is about 14 lbs. per person.

"I think the use of paper is a symbol of freedom," wrote Mr. Moore.

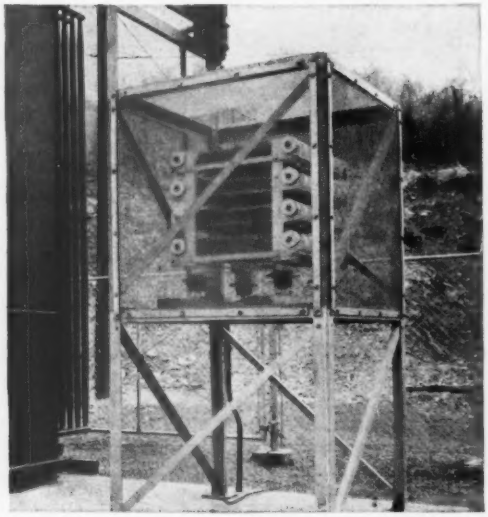
IN THIS ISSUE:

PULP & PAPER circulates all over the world. *It is read in virtually every pulp and paper company office and mill throughout the United States, Canada, Mexico, Alaska, Hawaii, the Philippines, Australia and New Zealand. It is read in many other offices and mills in Argentina, Brazil, Chile, Colombia, Cuba, Ecuador, Uruguay, Venezuela, England, Ireland, Scotland, Sweden, Norway, Finland, France, Germany, Austria, Belgium, Holland, Czechoslovakia, Italy, Spain, Switzerland, Soviet Russia, Poland, Yugoslavia, India, Pakistan, Israel, South Africa, China, Japan, Formosa, both near and far around the world, where pulp and paper are made.*

PULP & PAPER *is published monthly, except July, when publication is semi-monthly, at Bristol, Conn., by Miller Freeman Publications, Inc. Subscription prices for 13 issues per year (12 monthly issues and also the valuable and comprehensive reference issue entitled the World Review Number) are as follows: In the United States, Canada, Mexico and other Pan American Union nations—$3 for one year or $5 for 2 years. In other countries—$4 for one year and $7 for 2 years. Entered as second class matter Dec. 4, 1951, at postoffice, Bristol, Conn., under the Act of March 3, 1879. Postmaster: Please send Notice 3579 to* PULP & PAPER. *71 Columbia St., Seattle 4, Wash.*

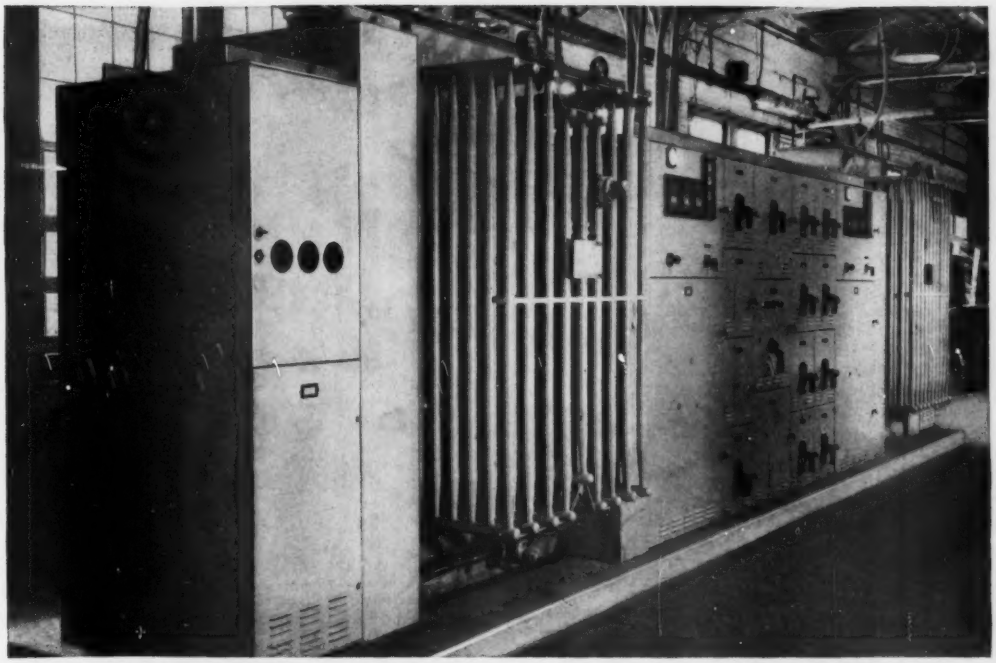
AMPLE IC. G-E metal-clad switchgear at Gardner has ample interrupting capacity for both present load and future expansion. Alfred Clegg, power house chief, likes the operating convenience of centralized control for main power circuits.

Modern power distribution system



NEUTRAL GROUNDING provides better over-all system operation. This resistor in the neutral of the 4160-volt system limits ground-fault current minimizing damage to equipment.

G-E APPLICATION ENGINEERS, with tools like this portable analyzer, can study your entire power system quickly—and recommend the proper system for your present and future load.



PROTECTS PRODUCTION. This 3000-kva G-E double-ended unit substation is one of two that insure against complete shutdown in stock preparation areas by providing an alternate 480-volt power source via secondary-selective arrangement.

protects production at Gardner

Secondary selective arrangement also adds flexibility for future expansion, more safety for personnel—neutral grounding minimizes equipment damage due to ground faults

Recently the Gardner Board and Carton Company of Lockland, Ohio, realizing that modern paper-making machinery does a continuous, high-tonnage job only when supplied continuously with adequate electric power, modernized its plant's power distribution system. Completely engineered and equipped by General Electric on an economical step-by-step basis, the new system includes such modern engineering advances as these:

"Building-block" load-center unit substations that reduce power distribution costs and make future expansion easier—factory-assembled metal-clad switchgear that cuts installation cost and protects equipment and feeders—high-voltage power distribution for full voltage at the motors and higher operating efficiency—a secondary selective arrangement that safely provides a dual power-supply route for greater reliability and continuity of production—and neutral grounding of both the 4160- and 480-volt systems for greater safety to personnel and lower over-all downtime for outages.

Let your local G-E apparatus sales representative tell you how G-E engineers can analyze your entire power system quickly, and help you select the proper equipment to fit your plant's needs.

Meanwhile, write for bulletin GEA-5521, "Power System Equipment for Pulp and Paper Mills" and technical article GET-1181C, "Neutral Grounding of Industrial Power Systems." Section 655-12, General Electric Company, Schenectady 5, N. Y.

Engineered Electrical Systems for Paper Mills

GENERAL ELECTRIC

MORDEN *SLUSH-MAKER*

The controllable bar-to-bar action of the "Slush-Maker's" rotor and bed plate (shown enlarged at right) is the answer to rapid, efficient and complete pulping and deflaking of all pulps and paper stocks—even high wet strength.

The circulating action of the rotor blades quickly blends and mixes various pulps along with color, size and other additions to the furnish.

The bar-to-bar action may be set up to give a preliminary beating treatment to the stock or to brush the color and size into the fibers.

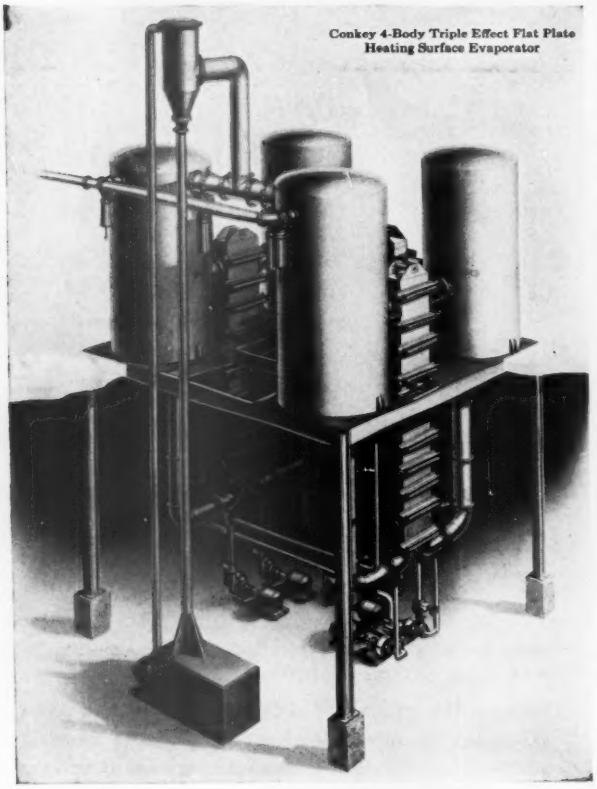
The "Slush-Maker" completely prepares the stock for final fiber treatment in "Stock-Makers" or other beating and refining equipment.

We are prepared to run a "Slush-Maker" demonstration for you—let us know your pulping requirements.

SLUSH-MAKER
MORDEN
Machines Company
STOCK-MAKER

CORBETT BUILDING
PORTLAND 4, OREGON

NO shut down time! stream pollution! scale removal costs!



Conkey 4-Body Triple Effect Flat Plate Heating Surface Evaporator

Conkey Flat Plate Heating Surface Evaporator *with Rosenblad Switching System**

The proven system for avoiding stream pollution by sulphite pulp mill waste liquors that proved so outstandingly successful in commercial installations all over Scandinavia, is now adapted for use in this country by General American. *In every instance* where a Rosenblad Switching System has been installed, shut down time *and* scale removal *costs have been practically eliminated!* The Rosenblad System utilizes the condensate wash as a descaling operation carried on during full capacity operation of the evaporator. Surfaces subjected to boiling liquor are periodically switched with those in contact with vapor and condensate to clean heating surfaces during normal continuous operation. *Every part* of the equipment is switched, consequently scale is washed away from pipe lines, valves and vessels . . . in addition to heating surfaces.

At present in this country . . . Rosenblad Switching Systems in Conkey Flat Plate Heating Surface Evaporators are being constructed for full scale commercial operations. *Write today for detailed bulletin.*

*Patents Applied For

PROCESS EQUIPMENT DIVISION GENERAL AMERICAN TRADE MARK

GENERAL AMERICAN TRANSPORTATION CORPORATION

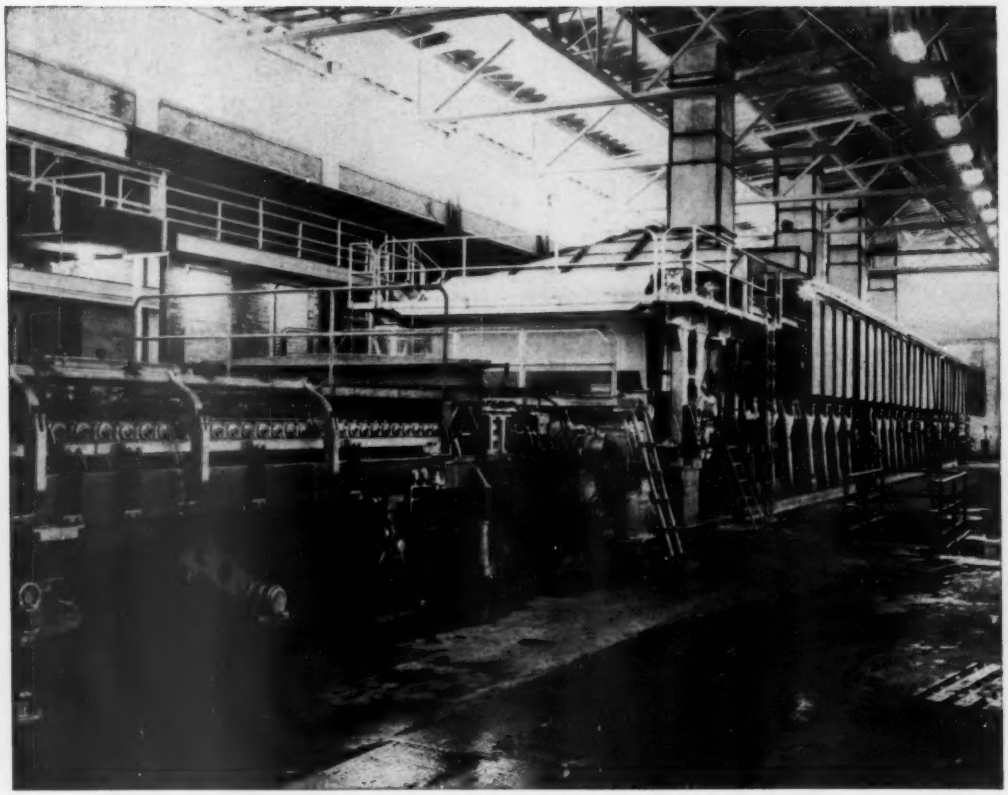
PROCESS EQUIPMENT DIVISION

Sales Offices: 10 East 49th Street, New York 17, New York
General Offices: 135 South La Salle Street, Chicago 90, Illinois

Sole Licensee in the U. S. A. for the A. B. Rosenblads Patenter Evaporator Switching System

OFFICES IN PRINCIPAL CITIES

Other General American Equipment:
Turbo-Mixers, Filters, Dewaterers, Dryers, Towers, Tanks, Bins, Pressure Vessels



This Machine Means Business!

This 130″ fourdrinier machine supplies the life blood of American business: bond paper! Without the product it produces, businesses all over America might grind to a slow halt.

Imagine, if you can, a business operated without paper. No paper to write orders on . . . no paper to keep records on . . . no paper to send out bills . . . no paper for correspondence. Without much doubt, it would be pretty tough for any business to operate long without paper.

And it would be equally difficult for this fourdrinier to operate without chemicals. Because Spencer Chemical Company supplies an ever-increasing amount of commercial grade anhydrous ammonia to paper mills using the revolutionary ammonium bisulfite process, each new development in this field is studied carefully.

With the completion in 1953 of new works now under construction, Spencer Chemical Company will be in a position to supply ammonia to a number of additional mills planning to go over to the ammonium bisulfite process. If your mill has such plans, perhaps it would be mutually beneficial to talk it over with us.

SPENCER

America's Growing Name In Chemicals

Spencer Chemical Company, Executive and General Sales Offices, Kansas City, Mo. Plants located at Pittsburg, Kans.; Henderson, Ky.; Charlestown, Ind.; Chicago, Ill.; and Vicksburg, Miss. (under construction).

Pulp Mill Specialists

Designed especially for rigorous pulp mill service, these valves are built to

- **Resist corrosion, abrasion, vibration and shock**
- **Operate with minimum maintenance**
- **Give positive shut-off**
- **Promote unobstructed flow**

The Screw down swing check valve operates as a freely flowing swing check, or it can be screwed down to throttle or stop flow. Sizes from 4 to 12 inches.

Blow valves are individually made to meet the requirements of each particular application.

For details of construction, sizes and dimensions, see your nearest *ESCO* representative, or fill in and mail the coupon.

ELECTRIC STEEL FOUNDRY
2166 N. W. 25th Avenue, Portland 10, Oregon

Please send detailed information on

☐ Screw Down Swing Check. ☐ Blow Valve.

Name_____

Company_____

Address_____

City_____ Zone_____ State_____

ESCO STAINLESS AND HIGH ALLOY STEELS

ELECTRIC STEEL FOUNDRY

2166 N.W. 25th Avenue, Portland 10, Oregon

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HONOLULU, T. H.	SAN FRANCISCO, CALIFORNIA
HOUSTON, TEXAS	SEATTLE, WASHINGTON

SPOKANE, WASHINGTON

IN CANADA — *ESCO* LIMITED, VANCOUVER and TORONTO

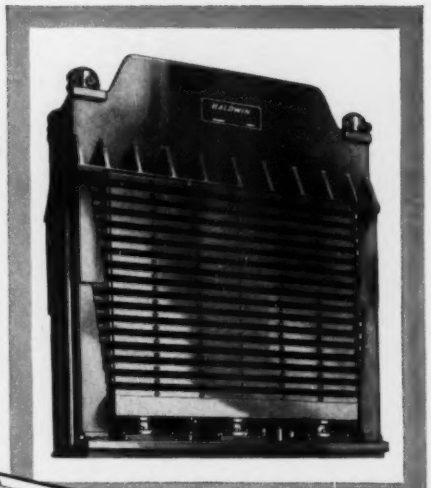
"Production-ize"

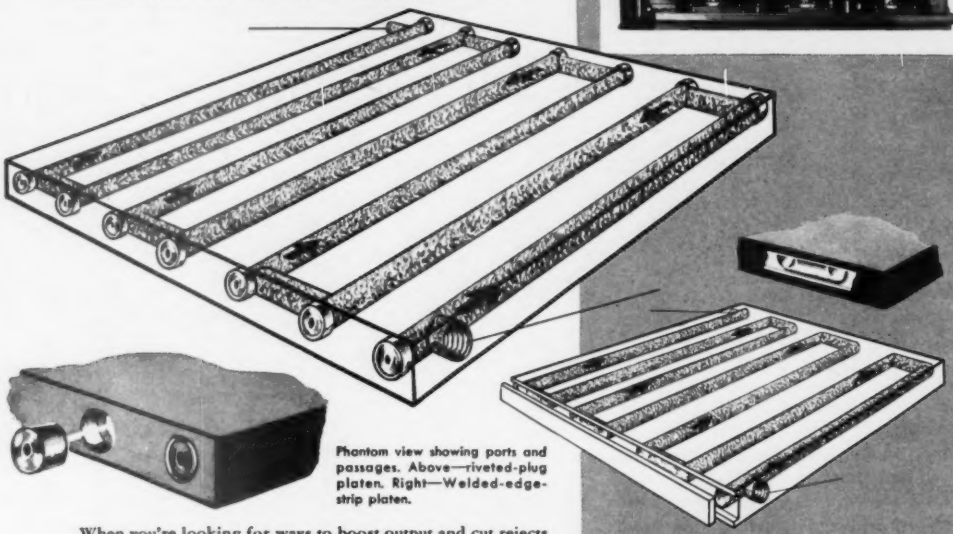
your steam platen presses with

BALDWIN

HEATING PLATES

scientifically ported for uniform surface temperature





Phantom view showing ports and passages. Above—riveted-plug platen. Right—Welded-edge-strip platen.

When you're looking for ways to boost output and cut rejects—look *first* at your heating plates. A hot-plate press is only as good as its platens. Unless you get uniform surface temperatures, you'll never get top production.

Baldwin heating plates are designed to provide this all-important uniformity . . . special manufacturing methods and equipment have been developed to produce passages of rifle-barrel accuracy, properly locate cross-ports, provide steam-seal plugs and attain smooth, parallel working surfaces. The results are showing up in users' shops—and are one reason why Baldwin Platen Presses are on the production lines of so many successful concerns.

When you are repairing or modernizing old presses—"production-ize" the equipment by installing Baldwin Steam Plates. Available in a wide range of sizes. Just specify your needs giving machine model and number.

Multiple-spindle automatic double-end drilling machine, designed and built in the Baldwin shop for drilling steam plates to close tolerances.

BALDWIN · BLH · LIMA-HAMILTON

BALDWIN-LIMA-HAMILTON

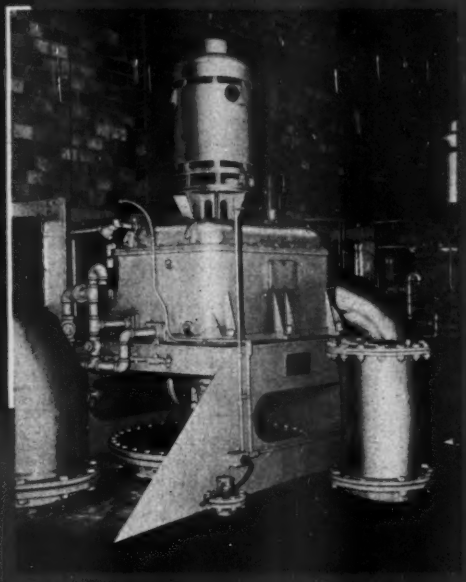
GENERAL OFFICES: PHILADELPHIA 42, PA. OFFICES IN PRINCIPAL CITIES

for a MODERN BLEACH PLANT

USE

Pacific-Western

VERTICAL AGITATOR DRIVES



The recently completed addition to the bleach plant at Puget Sound Pulp & Timber Company, Bellingham, Wash., shows the small amount of floor space occupied by Pacific-Western TV-60 vertical agitator drives. Not visible in the photograph above, but equally apparent to progressive pulp producers, is the fact that Pacific-Western vertical agitator drives are less expensive to install and require an absolute minimum of maintenance. Best of all, the dependability of design based on more than fifty years of service to the paper industry makes Pacific-Western speed reducers the standard for nearly every problem of power transmission application. Call or write the nearest Pacific-Western plant or office for prompt quotation on your needs.

Illustrated is one of the six Pacific-Western TV-60 vertical agitator drives on James Brukbey Company agitators in use at Puget Sound Pulp & Timber's new bleach plant addition at Bellingham. Reduction ratio is 72.9 to 1 driving through a 100 HP motor at 1750 RPM. In the same bleach plant Pacific-Western S-57 single reduction herringbone speed reducers drive the Impco washers. More than fifty other Pacific-Western speed reducers are used throughout the entire mill on log haul, log transfers and conveyors as well as in pulp agitation.

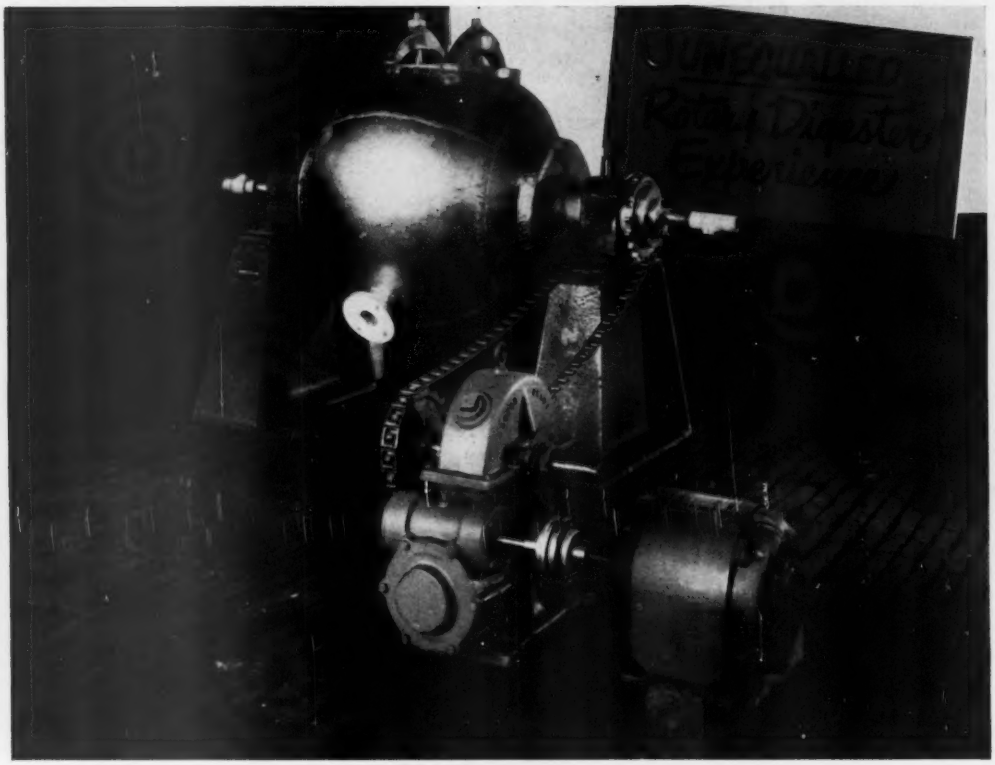
WESTERN GEAR WORKS

Manufacturers of **PACIFIC-WESTERN** Gear Products

Plants: Seattle
San Francisco
Belmont
(S. F. Peninsula)
Lynwood
(Los Angeles County)
Houston

Pacific Gear & Tool Works

Write, wire or phone your nearest Pacific-Western office.
Plants: 417 Ninth Ave. S., Seattle 4, Washington
2000 E. Imperial Highway, Lynwood (Los Angeles County), California
1000 Folsom St., San Francisco 3, California
Belmont (San Francisco Peninsula), California
117 N. Palmer St., Houston 3, Texas
Representatives: 620 S. E. Oak St., Portland 14, Oregon
Denver Dairy Building, Denver 2, Colorado
Engineering & Machinery Ltd., 1500 W. Broadway, Vancouver, B. C.



This "Baby" has the answers...

This "baby" digester actually works. It is a miniature of what tomorrow's rotary digester may be like. It is one of several such digesters regularly built by Biggs to undergo the laboratory tests that furnish the information which enables Biggs to maintain leadership in the field of paper making digester equipment.

To better serve the requirements of the paper making industry Biggs has for years conducted extensive experimental projects aimed at the design and production of the most modern and efficient digester equipment.

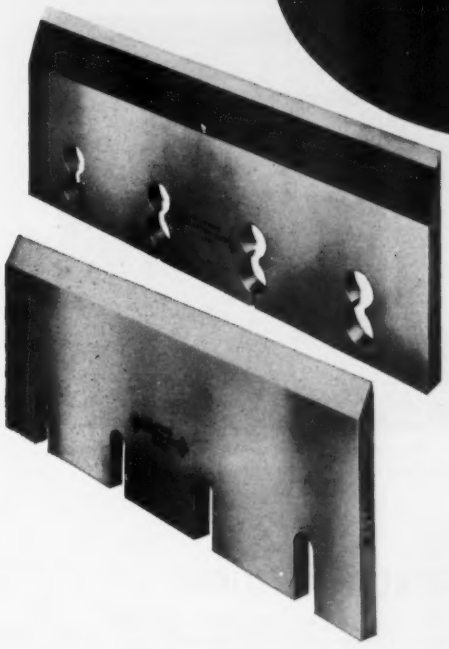
It is only natural then, that if you are thinking of expanding your digesting facilities it will pay to consult first with a Biggs engineer.

THE BIGGS BOILER WORKS COMPANY
1015 BANK STREET • AKRON 5, OHIO

THE SABRE . . . a blade that cleared the way to victory.

Through past military history, the Cavalry was used to break holes in the ranks of the enemy and clear the way for the main assault. The famous Cavalry sabre was used both as a cutting and thrusting weapon by the attacking Cavalrymen. It could withstand the severe blows of steel against steel in battle action.

famous blades



Heppenstall CHIPPER KNIVES . . . clear the way for better production.

The way is cleared for better chip production when modern Chipper Knives made by Heppenstall are part of your chipper line. Records of performance taken from pulp plants where these knives have been used for many years show:

- MORE HOURS BETWEEN GRINDS
- LESS SAWDUST WASTE
- LESS OVERSIZE CHIPS
- LOWER OVERALL BLADE COST

To be certain of consistent high quality and productivity—always specify Heppenstall.

Heppenstall—*the most dependable name in forgings*

PITTSBURGH 1, PENNSYLVANIA
Sales offices in principal cities

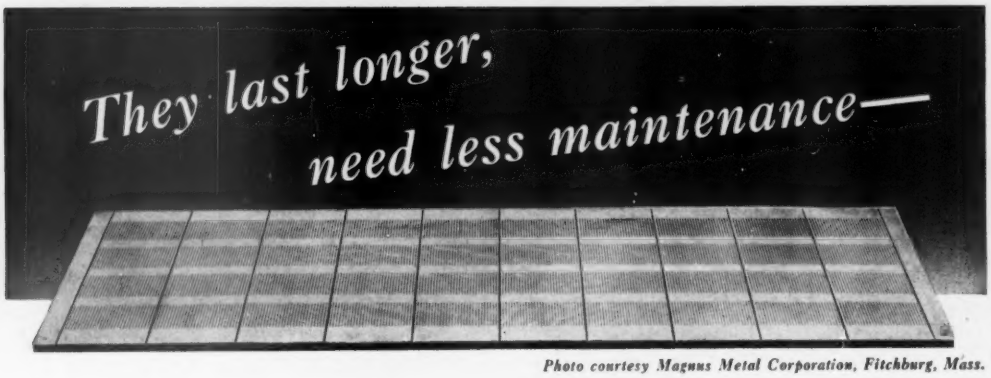


Photo courtesy Magnus Metal Corporation, Fitchburg, Mass.

Can Inconel Screen Plates Reduce Your Replacement Costs?

Nearly nine years ago, a Canadian mill decided to see if they could get longer service life from screen plates. Up to that time, the best screen plates tried had failed through corrosion or fatigue, after only about a year of service.

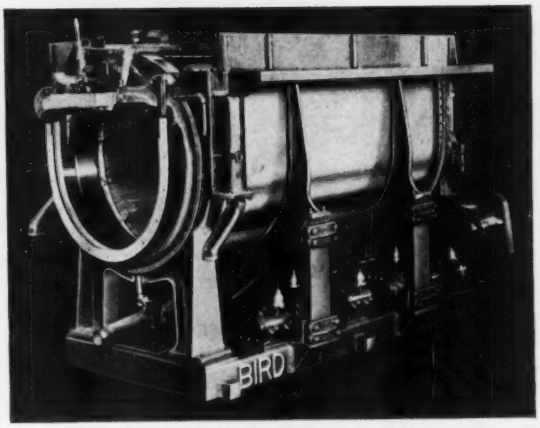
Then, in 1943, they tried screen plates of Inconel®. Today – *nearly nine years later* – these Inconel plates look as good as new.

This long plate life can be credited to two outstanding characteristics of Inconel – exceptional resistance to fatigue and corrosion by mill stocks.

Inconel is virtually unaffected by chemicals used in the pulp and paper mill. And – because Inconel does not readily work-harden – it is capable of withstanding severe vibration and shock which often cause other metals to fail through "fatigue."

For further information about Inconel screen plates, write directly to Magnus Metal Corporation, Fitchburg, Mass.

Right now the INCO Nickel Alloys are on extended delivery because so much is needed for defense. So, it's wise to anticipate your needs and place your orders (with necessary N.P.A. ratings) with your INCO distributor well in advance.



Inconel screen plates in position on a Bird machine. Photo courtesy Bird Machine Co., South Walpole, Mass.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York 5, N. Y.

EMBLEM OF SERVICE
NICKEL INCO ALLOYS
TRADE MARK
MONEL® • "R"® MONEL • "K"® MONEL • "KR"® MONEL • "S"® MONEL
NICKEL • LOW CARBON NICKEL • DURANICKEL®
INCONEL® • INCONEL "X"® • INCOLOY® • NIMONICS

RICE BARTON

Dump Valves

12 Inch Valve Assembly

Answering a need for a superior dump valve for the paper industry, Rice Barton Dump Valves have the following advantages:

- Passages of valve are clear, smooth and unobstructed.
- Plug type flange used to eliminate any stock accumulation in valve.
- Gate of valve flush with floor of tank which prevents unpulped stock from pocketing above valve.
- Valve may be opened and closed from a remote location handy to operator.
- Either water or compressed air may be used for actuating valve.
- Discharge in any direction by swinging valve on bolt holes.

Construction — Valve body available in either cast iron or bronze.
Trim of bronze or stainless steel.

RBR 10-52

RICE BARTON Research Corporation
WORCESTER 1, MASS.

CONSISTENT EXPANSION

Puget Sound, pioneer pulp mill in the Pacific Northwest, has been expanding consistently ever since World War II. New hydraulic barking equipment, a new industrial alcohol plant also producing *Lignosite*, a new paper board mill . . . and, now, new facilities for the production of bleached pulp. Puget Sound . . . the oldest and newest pulp mill in the West.

PUGET SOUND

PULP AND TIMBER COMPANY

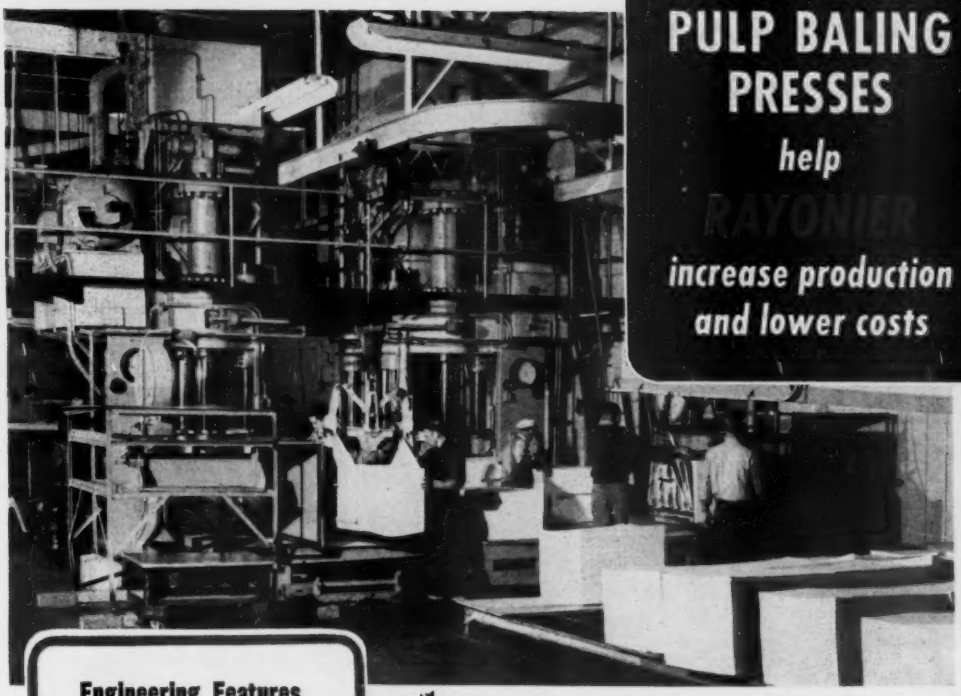
BELLINGHAM • WASHINGTON

WASHINGTON PULP BALING PRESSES

help

RAYONIER

increase production and lower costs



Engineering Features of the WASHINGTON Pulp Baling Press:

- Cylinders are individual castings, bronze bushed, positioned to top platen.
- Simple, completely automatic cycle control.
- Platen lugs are bronze bushed with wiper rings, eliminating pulp damage from leaking oil.
- Split nuts for positioning top platen and pre-stressing columns.
- Main ram of Meehanite alloy, ground and polished.
- Prefill valves outside mounted for accessibility.
- High output—complete cycle in 15 seconds.

Repeat orders following actual operating experience are the best evidence of the advantages of Washington pulp baling presses.

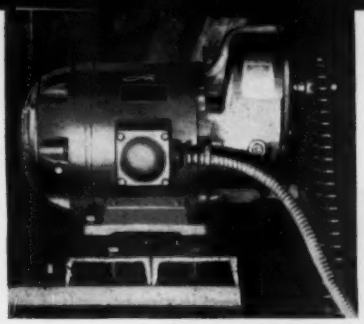
The two 1000-ton units illustrated above were installed in the Hoquiam, Washington, plant of Rayonier, Incorporated, in 1951, replacing 600-ton presses of older type. The higher capacity, ease of control and increased production engineered into the new presses have enabled the mill to raise efficiency in the baling press department. Two similar 1000-ton Washington pulp baling presses have since been ordered by Rayonier, Incorporated, for installation in the new mill at Jesup, Georgia.

Washington Iron Works is the leading western manufacturer of Pulp baling presses and of hydraulic hot presses specifically engineered for plywood, door and hardboard production. Inquiries for either standard or special types of presses are invited.

Since - 1882

WASHINGTON IRON WORKS

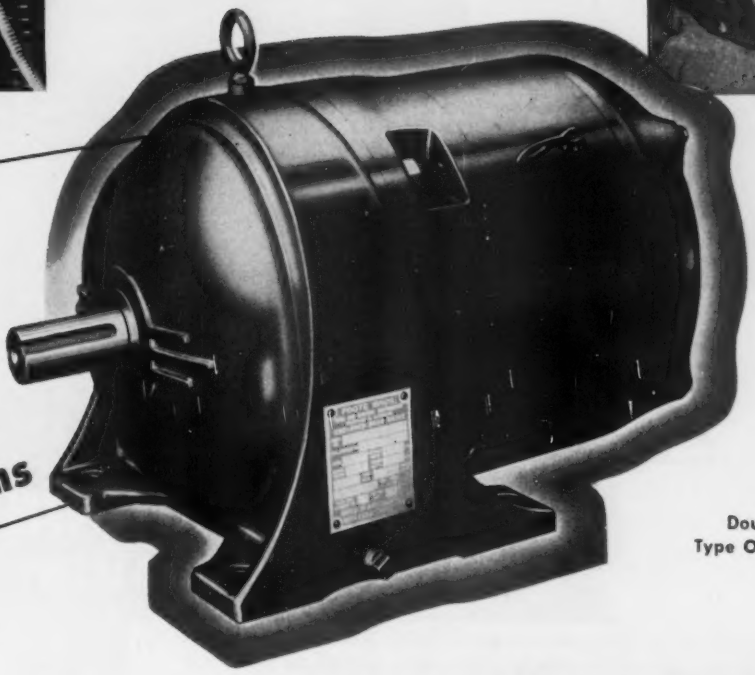
1500-6TH AVENUE SOUTH, SEATTLE 4, WASHINGTON • ELLIOTT 1292



Single Reduction Gearmotor

Triple Reduction Gearmotor

The Modern Solution to Your Drive Problems



Double Reduction
Type OGX 2-HP Gearmotor

Foote Bros. — Louis Allis GEARMOTORS

These Gearmotors save space, eliminate operating headaches, and greatly reduce maintenance costs. They are streamlined power units combining compactness, efficiency, and long life. Available in ratings of 1 to 150 HP with 40 HP and smaller units in all output speeds and AGMA classes in stock for immediate shipment.

Better still, there's a Foote Bros.-Louis Allis Gearmotor *exactly suited* to your particular job. Check these features for job fit and dependability:

✓ **Complete range of output speeds** 780 to 7.5 RPM. Rated for AGMA Class I, II, or III service conditions.

✓ **All types of motor enclosures** — Open, Drip-Proof; Splash-Proof; Enclosed, Non-Ventilated; Enclosed, Fan-Cooled; Explosion-Proof; also A. C. Wound Rotor, and Direct Current Motors.

✓ **Extra capacity ball and tapered roller bearings** throughout for trouble-free service under severest conditions.

✓ **Maximum wear resistance — high load carrying capacity.** Precision, file-hard gear tooth surfaces with tough, resilient cores.

✓ **Quiet, vibrationless operation,** even under continuous reversing service. Tang-driven motor-shaft pinion provides quiet, vibrationless operation.

You'll like these features, and the many, many more that make Foote Bros.-Louis Allis Gearmotors your best buy in smooth, dependable, low-maintenance power transmission. Get further information about these money-saving units *exactly suited* for *your* job. Write today for Bulletin 1000 or contact the Louis Allis District Office nearest you.

GM-101

THE LOUIS ALLIS CO., Milwaukee 7, Wisconsin

We specialize in SPECIAL MOTORS

Extractor Motor with Integral Blower

Ajusto-Spede with Eddy Current Brake

Special Arbor Type Motor

Splash-Proof Motor with Flange

Self-Cleaning Textile Motor

Special Adzer Motor

Single Phase Pump Motor with Tripod Base

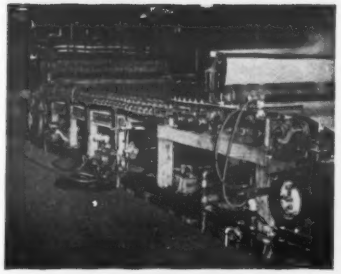
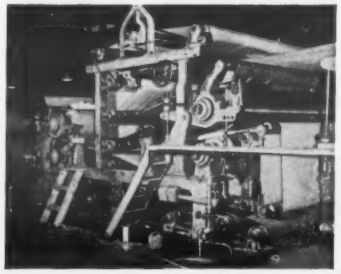
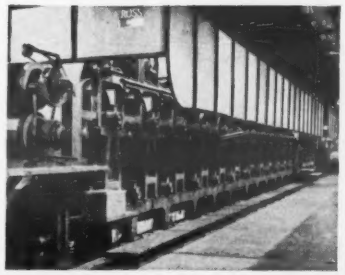
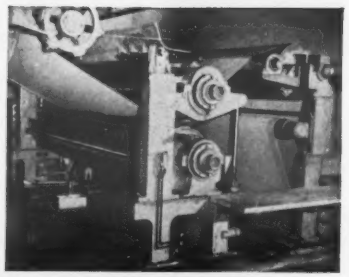
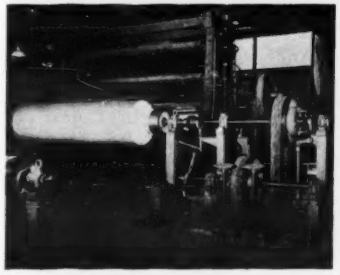
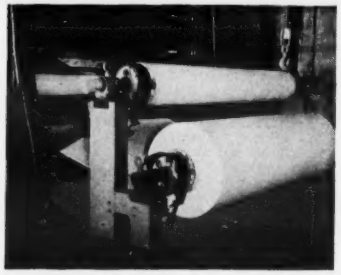
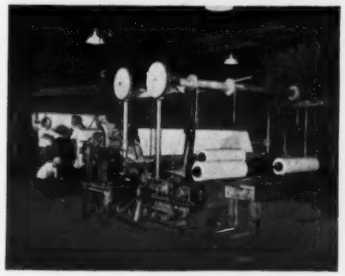
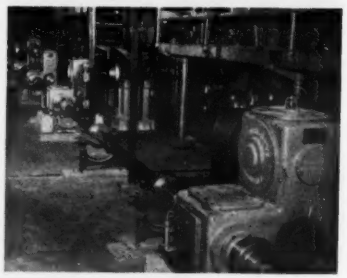
Sanitary Motor

Blower Ventilated Frequency Converter

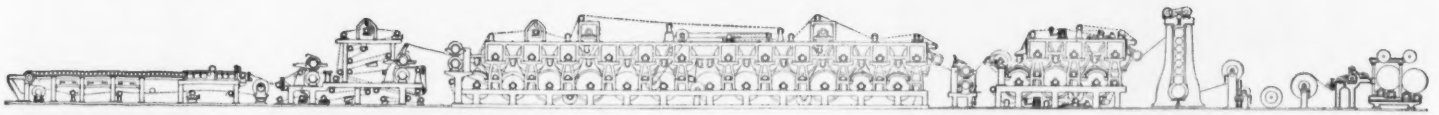
Rolled Shell Shaftless Motor

Oil-Well Pumping Motor

Standard or special — we build it. Whatever electrical or mechanical modifications or features you need, there is a Louis Allis motor that will do your toughest jobs better.

Latest Moore & White Fourdrinier machine with 136" wire operating on specialty grades at Hopper Paper Co., Taylorville, Ill. Above views show various machine sections and Moore & White Syco-type machine drive.



Get CLEANER CUTS ...and More of them with SIMONDS Paper-Cutting KNIVES

You can count on getting *extra* duty out of Simonds "Red Streak" Paper Knives, because you get these 4 unmatched advantages:

1: *Simonds Special S-301 Steel* means longest life for the cutting edge, and less frequent trips to the grinder.

2: *Uniform Accuracy of Edge and Thickness of Knife* from end to end gives you straighter, cleaner cuts.

3: *Correct Taper and Face Clearance* eliminates drag against stock and assures clean, shear cuts.

4: *Simonds Special "Mirror Finish"* gives you the same fast, smooth cutting for the entire life of the knife on any type of stock.

Order Simonds "Red Streak" Paper Knives from your nearest Simonds Distributor or printing supply house.

SIMONDS SAW AND STEEL CO.

Factory Branches in Boston, Chicago, San Francisco and Portland, Oregon. Canadian Factory in Montreal, Que. Southern Service Shop in Meridian, Miss. (formerly J. H. Miner Saw Mfg. Co.). Simonds Divisions: Simonds Steel Mill, Lockport, N. Y., Simonds Abrasive Co., Phila., Pa. and Arvida, Que., Canada

you should see samples of accepts and rejects from Bauer CENTRI • CLEANERS

As you probably know, we have acquired patent and manufacturing rights on cyclonic pulp cleaners from The Hammermill Paper Co. and The Howard Smith Paper Mills, Ltd.

Briefly, a Centri•Cleaner is a cone with a tangential inlet near the top. Pulp slurry of about 0.5% consistency enters the cone under pressure. A whirling motion is imparted to the slurry. Dirt is emitted from the bottom opening, while the cleaned pulp is ejected from the outlet at the top. See the accompanying drawing.

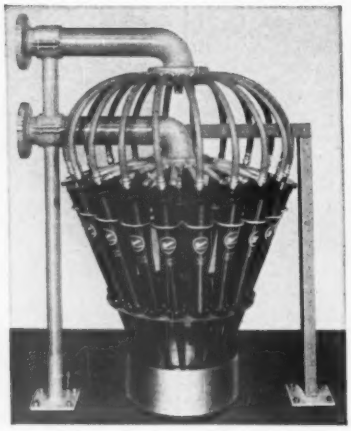
The astonishing fact is that Centri•Cleaners not only remove sand and grit, but also bark particles, fiber aggregates, and shives. In other words, Centri•Cleaners are "sensitive" to alien matter which is of different specific gravity, specific surface, shape, or size than pulp fibers. No other pulp cleaner has that aptitude.

You can see the proof of Centri•Cleaner work in hand sheets which we'll be glad to show you. These are samples of both commercial and laboratory results. The exhibits are amazing.

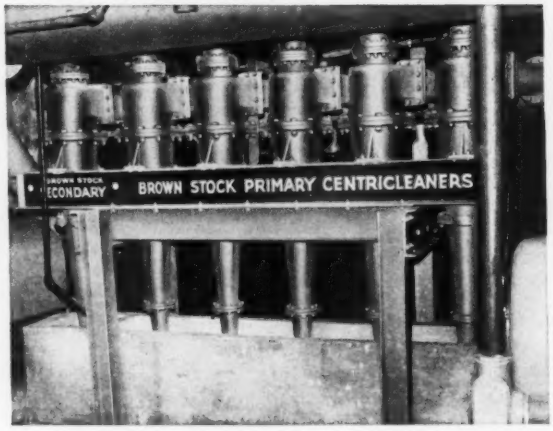
Write today for our Centri•Cleaner Bulletin No. P-4. It gives detailed information. A limited supply of samples on various pulps is available for mailing. The Bauer sales engineer in your territory can show you a complete brochure of sample accepts and rejects.

This is a highly important subject. We are sure you'll want the details on it.

Impressionistic drawing of the flow in the Centri•Cleaner.



A 20-unit battery of Bauer No. 600 Centri•Cleaners (Hammermill type) in circular arrangement, all connected to single inlet and outlet manifolds.



An installation of Bauer No. 622 Centri•Cleaners (Howard Smith type) handling pulp slurry from knotters. Note that five are hooked up together in the primary group for the first pass. A single one handles the second pass; that is, it reworks the rejects from the primary group. Capacity of this compact assembly of Centri•Cleaners is 250 tons per day.

THE BAUER BROS. CO.
Established 1878

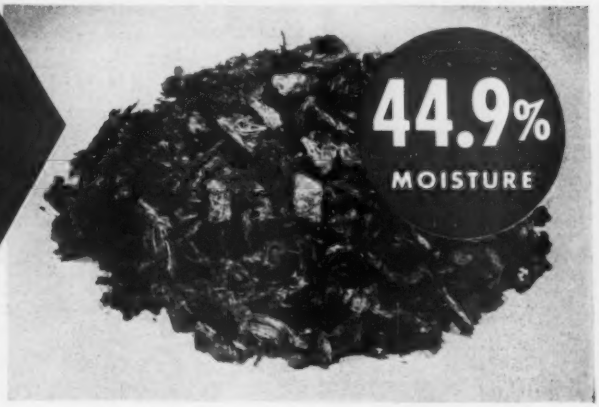
1706 Sheridan Ave.
Springfield, Ohio

If your knots, bark or other wood refuse look like this:

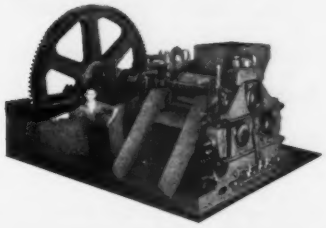
This soggy mass has just come from the digester, soaked in black liquors. Note how cooking failed to reduce knots. *(Both these photos are unretouched.)*

the FULTON ROLL PRESS

Will transform them into profitable form like this:



Here are the same knots after a few moments in the FULTON Roll Press. Note how thoroughly black liquors have been expressed and fibers broken up. *(Moisture percentages are from independent laboratory report on results of test for large Southern Kraft mill.)*



Fast, continuous dewatering-and-reducing eliminates inefficient, costly "Batch" methods!

You'll be simply amazed what a job the FULTON Roll Press does on knots, bark, tailings and other mill waste—and how much *labor, power, handling equipment, time* and MONEY it saves!

May We Prove It on Your Material?

FULTON

FULTON IRON WORKS COMPANY

SAINT LOUIS 14, MISSOURI

MAKERS OF FINE PROCESSING AND EXTRACTION EQUIPMENT SINCE 1852

Mail Coupon Now!

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FREE TEST RUN OF MATERIALS YOU WANT TO PROCESS

Fulton Iron Works Company,
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Please send full details of FULTON ROLL PRESS

☐ We are interested in FREE test run of.....

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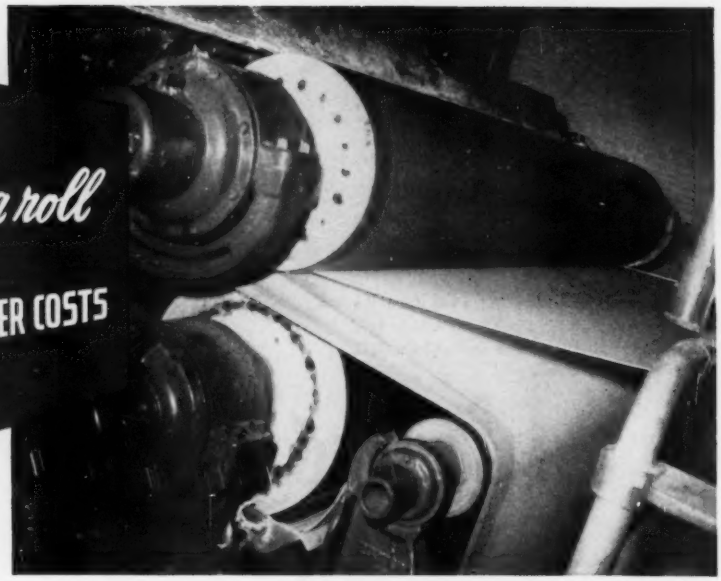
FIRM.....

ADDRESS.....

CITY.....ZONE.....STATE.....



Picture of a roll Cutting PAPER COSTS

THEY'RE PRESS ROLLS IN RHINELANDER'S NEW #8 MACHINE

. . . just two of the forty-seven rubber-covered rolls in that new Fourdrinier

. . . all by Stowe-Woodward, Inc.

STONITE ®
Special covering for Top Press Rolls, Smoothing Rolls

MICROROK ®
Special covering for Wet Press, Smooth Press and Size Press Rolls

TANNITE ®
Couch Rolls

STOPRENE
Special synthetic top press rolls

SUCTION Press Rolls
TABLE Rolls
WIRE Rolls
FELT Rolls
PRESS Rolls
LUMPBREAKER Rolls
SIZE PRESS Rolls

To the extent that GOOD rolls reduce maintenance and "down time", GOOD rubber-covered rolls cut papermaking costs and increase profits . . . and rubber-covered rolls by Stowe-Woodward, Inc. have a pretty good reputation on that score. It is one of the reasons that the trade press so frequently reports, "rubber-covered rolls by Stowe-Woodward".

S-W INC.

STOWE-WOODWARD, Inc.

Craftsmen in rubber

NEWTON UPPER FALLS 64, MASSACHUSETTS

New York office: WOOLWORTH BUILDING, NEW YORK 7, N. Y. • *On the West Coast:* HUNTINGTON RUBBER MILLS, INC., SEATTLE

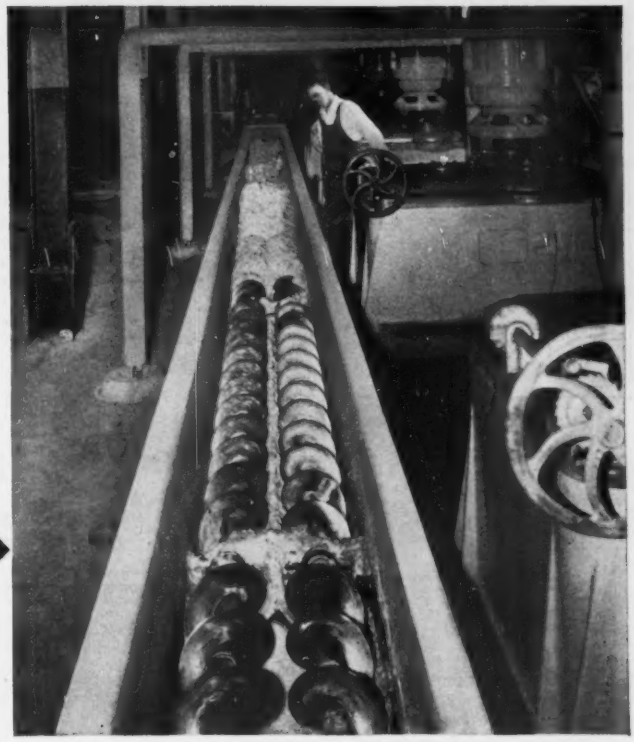
Why LINK-BELT "total engineering" means better screw conveyors for you...

LINK-BELT integrates all components to give you the right screw conveyor for your job

Don't be fooled by the apparent simplicity of a screw conveyor. It *is* simple in design, but there are many important factors that must be considered to give you top performance.

That's why Link-Belt's broad materials handling experience is so important... why Link-Belt Screw Conveyors are first choice on so many demanding jobs. And because Link-Belt makes all types and sizes of components, you get exactly the right screw conveyor for your particular requirements.

It's easy to see why "total engineering" results in top screw conveyor performance. Call the Link-Belt office near you for complete information.

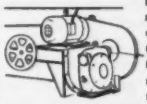


Properly designed Link-Belt Screw Conveyors do an efficient and dependable job in conveying wet pulp from filters to bleach chests.

LINK-BELT designs and builds all components!

TROUGHS—Link-Belt builds flanged, angle flanged, flared, rectangular, dust-seal, jacketed and drop-bottom types in steel or alloy metals. Variety of connections, supports, covers and clamps offers added design flexibility.

TROUGH ENDS—Steel or alloy metal plate or cast trough ends to match all trough shapes, provide required shaft bearing support and alignment. Seal glands to protect bearings, if required.



DRIVES—Link-Belt designs and builds many forms of drives to suit specific conditions—enclosed gear, Electro-fluid, P.I.V. variable speed, and chain drives of various types.

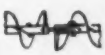
SCREWS—Link-Belt makes a complete range of conveyor screws—Helicoid, Sectional Flight, Cut Flight, Ribbon Flight, Paddle type and special

types for such diverse applications as feeding, conveying, mixing, agitating, stirring, blending, etc.

SPOUTS & GATES—Plain discharge spouts can be fixed or detachable. Discharge gates, flat or curved slide, can be hand or rack-and-pinion operated.

Link-Belt can also supply a full range of flanges, thrusts, covers, saddles and countershaft ends.

HANGERS—Available in a variety of styles and mountings, with various bearing materials, and steel or cast hanger frames.



SHAFTS & COUPLINGS—Conveyor couplings and end shafts are designed for adequate torsional strength and have jig-drilled coupling bolt holes for accurate alignment.

LINK-BELT

SCREW CONVEYORS

LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices in Principal Cities. 12,806-A

Let's be practical about precipitators

When a conventional precipitator is shut down for maintenance and inspection, valuable materials caught in the gas are discharged to the atmosphere by a by-pass system. This means a drop in recovery rates and an increase in operating costs. But Koppers solves this problem with a new design . . .

Koppers-Elex electrostatic precipitators assure maximum recovery with an efficient double-chamber design!

KOPPERS-ELEX electrostatic precipitators save you money two ways on recovery boiler applications. The first way is with maximum recovery. Successive collection zones can be separately energized which means higher voltages can be applied—with an increase in efficiency as a result.

The second method is with Koppers double-chamber design. Instead of conventional by-pass systems, the dirty gas can be diverted through a single chamber while the other is shut down for inspection and maintenance. This means recovery continues with only a slight decrease in efficiency. As a result operating costs go down and recovery rates stay up.

In addition, operation is simplified by Koppers exclusive bottom drag scraper which does away with conventional hoppers. Dust is removed continuously—an important point where chemicals are to be re-used. Another feature is completely "packaged" mechanical or vacuum tube power packs which can be located in any convenient area in the plant.

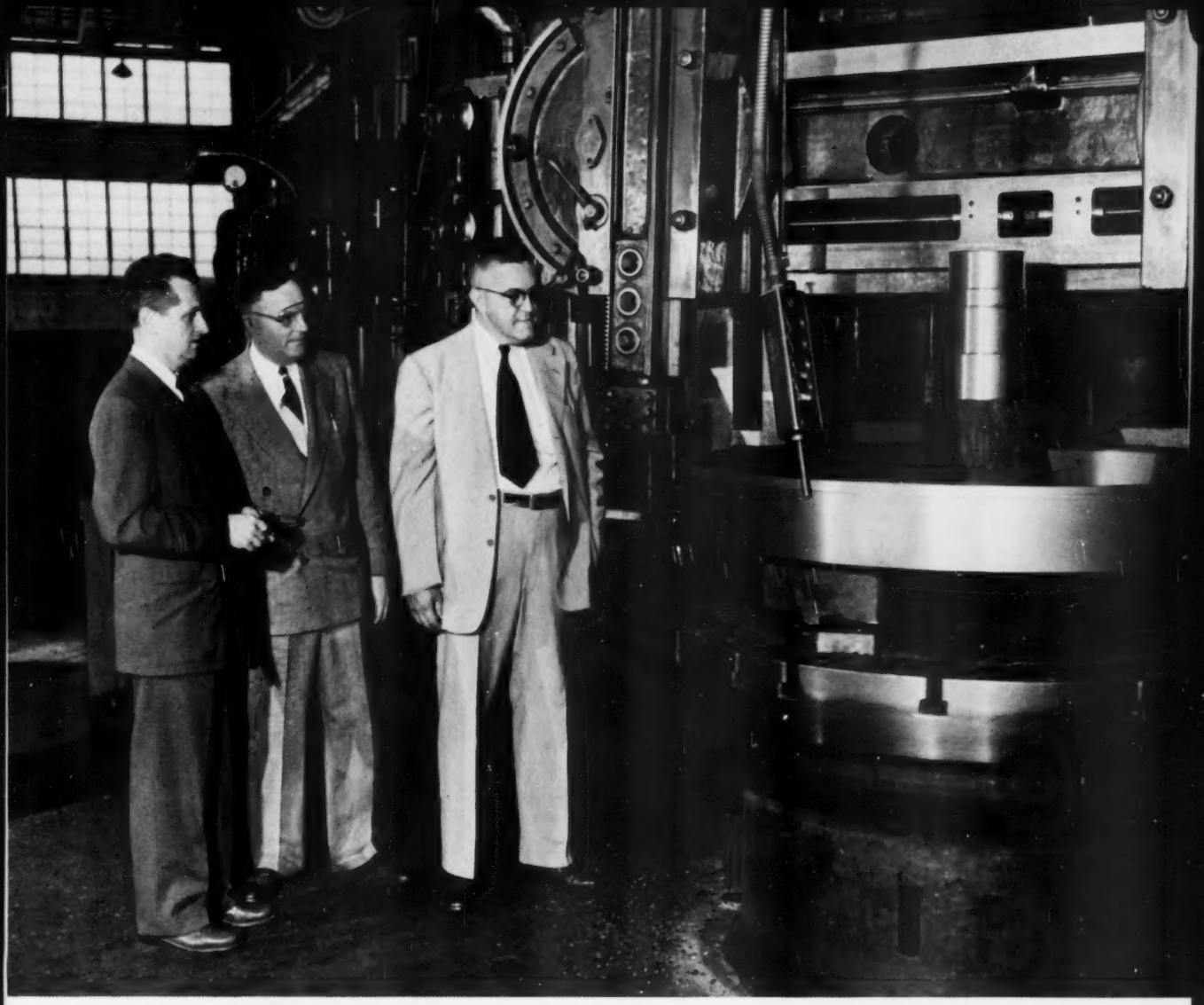
PERFORMANCE GUARANTEED!

Koppers engineers protect your investment in an electrostatic precipitator by guaranteeing both the recovery or gas-cleaning efficiency and the residual content left in the gas after cleaning. Koppers-Elex electrostatic precipitators are designed, engineered, fabricated, erected and guaranteed under one contract by Koppers Company, Inc.

IF YOU HAVE A GAS-CLEANING PROBLEM, write today and outline the details for us to review. There is no obligation. Just address your letter to: KOPPERS COMPANY, INC., *Precipitator Department*, 340 Scott Street, Baltimore 3, Maryland.

KOPPERS

Koppers-Elex ELECTROSTATIC PRECIPITATORS



INCREASED EFFICIENCY in the building of high-speed, high-production paper machines is one result of the major expansion program at Beloit Iron Works. On the floor of the large dryer shop recently completed, Gaston Bertrand, Russ Goodwillie and Francis Ramsden (*left to right*) watch a dryer head being machined to close tolerances on a 62" boring mill.—*Beloit Iron Works, Beloit, Wisconsin.*

BELOIT

PAPER MACHINERY

WHEN YOU BUY BELOIT... YOU BUY MORE THAN A MACHINE!

IN DEFENSE OF "STINKERS"

SCIENTIFIC SPECIALISTS - - ARE THEY MAKERS OR BREAKERS?

By Jack V. Savage
Sulfite Supt., Crown Zellerbach Corp., Camas, Wash.

The Detroit Superintendents Convention reports have been received with mixed emotions.

A copy of the paper entitled "Sulfite Superintendents—Thinkers or Stinkers" is to be found on the writer's desk with each fitting passage conveniently underlined by his well-meaning friends. We know we need a lot of advice and exhortation, both of which are definitely in ample supply. But the author must have had an extra bowl of wheaties when he dragged "management misconceptions" into the same rut with us stinkers. That was a little unfair because management draws heavily on just such specialists as the author in formulating its policies.

It is not intended to disagree with the author, but rather to make democracy live by presenting the other side of the picture. It just happens that the writer qualifies as No. 1 Stinker by the author's yardstick and, as such, is obligated to strike a blow in defense of his less odorous fellow-sulfite superintendents.

If we get all the cards on the table some of the boys may see the traps and pitfalls before it is too late and either avoid them or go into some vocation where nothing more exacting than a loyalty oath is expected. We hopeless cases are mostly what they refer to as "old timers." We learned the little we know about the business the hard way. Everything has changed since then except the number of minutes in an hour and perhaps the equipment we operate.

The writer started out full of everything it takes to be able to breath 16% SO and go into digesters and combustion chambers so hot they would hiss back at you if you spit on 'em. We always tried to work hard enough to make a favorable impression on the boss because that was the only way to a better job. Sometimes a dark horse got the better job, but at least the sulfite superintendent saved a lot of valuable time to devote to "constructive thinking" because no one in our gang needed any spoon-feeding in order to keep our job up-to-standard. Once in a while one of the boys would get out of line, but the superintendent in his role of judge, jury, and witness could dispose of the case in three to five minutes. The same job now takes four hours of semi-legal negotiation with a crew of plenty smart union officials and chances are even who will win. There go three hours and 55 minutes that should have gone into "analyzing problems and people."

I mentioned something about keeping up to standard, which makes it appear worth mentioning this—that standards are considerably higher now. The way we are able to meet them is by "employee participation." One way is the suggestion system. We get 500 to 600 suggestions a year from the crew. This permits an excuse to talk to the individual and get to know his problems. It all takes a little less than two weeks actual time in a year, and after a proper "two-way communication system" is established we can start telling the boys our problems.

Another way is through Job Instruction Training. Remember the phrase: "If the worker hasn't learned, the teacher hasn't taught." When we started out, if the worker didn't learn he was too dumb for the job and he was told that cold fact without sugar-coating. It all adds up to a sort of hopeless shadow-boxing with destiny.

The "old timer" has approached the situation from both sides and he seems always to be behind the eight ball.

Then there is the laboratory, the industrial engineer, the personnel department, the process engineer, and a host of other scientific specialists—all eager to help in our program to improve standards.

The "thinker" will, of course, follow the advice of each of the specialists, even though he can't quite see their logic at times. To shun it would be to resist progress. What the neophyte sulfite superintendent must learn is that enough of this good advice will backfire to make him a "stinker" anyway. It is difficult to pass the buck to a specialist because when his idea turns out to be a dud, it's all in the way you executed it. Anyway they operate with a system you can't beat. There is always a new specialist to step up with a new formula which keeps you so busy you don't have time to crack down on the old one. There goes the old familiar exculpation—"don't have time." Confucius has been quoted as saying . . . "One look is worth 10,000 reports." But in modern practice we find that after listening to, looking at, or alibing for 10,000 reports, there is no time left for one look. The entire horizon becomes clouded when we read that other specialists can find no change in human nature since the dawn of history.

The writer is not expecting this outcry to change the course of progress in the least. In fact "he is only announcing to those within his hearing" that he is profoundly jealous of the scientific specialist—the man who can influence the entire plant procedure without getting close enough to the nip to risk a finger.

But, be that as it may, some of us have to be sulfite superintendents. So, to those upon whose shoulders the job falls, let them adopt the currently publicized maxim "illegitimi non carborundum."

JACK SAVAGE, whose article defends the Superintendent described as a "Stinker"—not a "Thinker."

Ed. note—At the Superintendents Convention in June in Detroit, Dr. John Cadaret, assistant dean of business administration, Wayne University, gave a paper entitled: "Thinkers or Stinkers." In part, he said: "The difference between the efficient superintendent—the thinker and the stinker, lies in the ability to analyze people, problems and procedures. . . . Too often he falls into disrepute because he accepts such (unsound) management misconceptions as: 'We treat everyone alike,' 'We are just one big happy family,' 'present day workers are inefficient and lazy.' . . . Many superintendents fail to appreciate the value of an adequate communication system. . . . Too frequently we hear them wail they have too much to do. . . . He should give directions based on experience and understanding of subordinates, rather than on his own experience and understanding . . ." For a further review of the original paper by Dr. Cadaret, see PULP & PAPER, *August issue, page 60.*

IN GOVERNMENT NEWS

COLIN GARDNER III (left), Vice Pres. of Operations, The Gardner Board & Carton Co., Middletown, O., is one of six members appointed to President Truman's Wage Stabilization Board. Mr. Gardner is also V. P. of Dairypak Inc., and a Director of Manchester Machine Co. RICHARD A. McDONALD (right), named the top Administrator for the entire National Production Authority. A former Exec. V. P. of Crown Zellerbach and more recently Chairman of its Exec. Committee, he has been in Washington several months. He was Asst. Administrator in charge of NPA's Industrial and Agricultural Equipment Bureau.

Lindsay Wire Addition

Lindsay Wire Weaving Co., Cleveland, Ohio, has been awarded a certificate of necessity for $226,399 for plant expansion.

NEWS IN PICTURES—ABOUT INDUSTRY MEN COAST TO COAST

Karl Oberreich

KARL A. OBERREICH (left), appointed Sales Manager of Appleton Woolen Mills, Appleton, Wis., which he joined Oct. 1, 1949. A graduate chem. engineer with 22 years in this industry, in technical and research work, purchasing and selling. Sales representatives for Appleton felts are in all regions of U. S. He has been assistant to A. H. Thuerer, Secretary of the company.

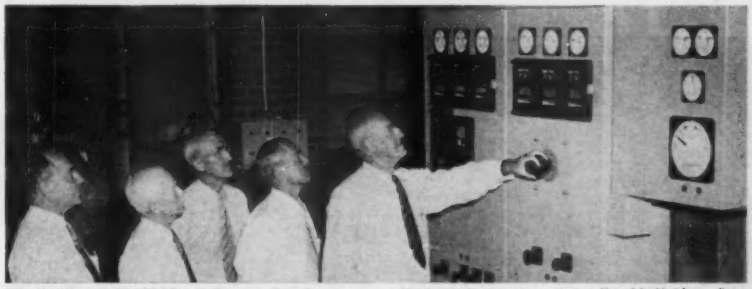
G. H. Chidester

GARDNER H. CHIDESTER (right), Chief of Pulp & Paper Div., U. S. Forest Products Laboratory, Madison, Wis., who has flown to Rome, Italy, to serve a three months special assignment working with Forestry Div., United Nations Food & Agricultural Organization, helping it to consider ways for meeting worldwide pulp and paper needs, possibly through semi-chemical pulping processes developed at Madison.

WM. W. CAMPBELL, JR. New Sales Manager for Lockport Felt Co., for which he has been an executive in various departments for 17 years.

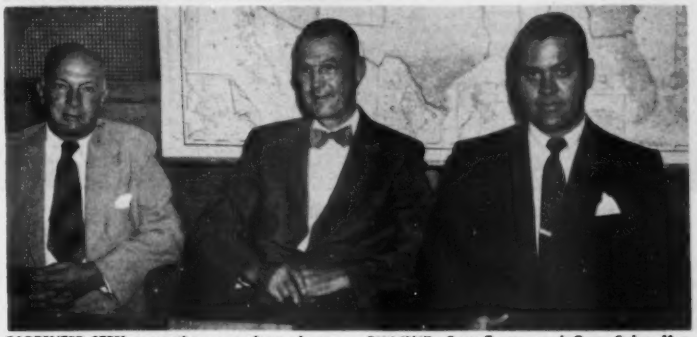
F. H. "CURLY" SINGLETARY (left), whose promotion to Paper Mill Supt., Calcasieu Paper Co., Elizabeth, La., was previously reported. He succeeded the late C. J. Hanchey, returning to the mill where he startd in 1928. He left Calcasieu in 1934 and after a year on the West Coast joined Crossett Paper Mill, where he remained until 1937. He became Tour Boss at St. Marys (Ga.) Kraft Co., in 1941 and then went to Hudson Pulp & Paper Co., at Palatka, Fla., as Asst. Paper Supt. in 1947.

JUSTIN R. WEDDELL (right), Public Relations Director, St. Regis Kraft Division, Pensacola, Fla., who was recently elected President of the Florida Forest and Parks Ass'n. He had been a Director of the association for years.



ON HAND AT START-UP of Eastern Corp.'s new 3125-kva General Electric turbo-generator at the company's plant at Lincoln, Me., were, from left: Max D. Getchell, Chief Engineer; Harry C. Lord, of John A. Stevens, Consulting Engineers; E. L. Aldrich, Mechanical Superintendent; Harold Holden, Eastern's President; and Charles G. Paine, Vice President and General Manager. The steam and electric generating plant at Lincoln has been enlarged and modernized.

CARPENTER STEEL EXECUTIVES ON TOUR



CARPENTER STEEL executives are shown here on tour of Pacific Coast. Left to right: PHIL CODDINGTON, from Union, N.J., Sales Mgr. of Alloy Tube Division; FRANK PALMER, Reading, Pa., President, and PAUL KELLY, Pacific Coast Manager, based at San Francisco. Picture taken in office of C. E. (PETE) BUCKNER, Secy-Treas. and Gen. Sales Mgr. of Electric Steel Foundry Co., Portland, Ore. The two outstanding companies in stainless and alloy steel fields are associated in supplying special process equipment for pulp and paper mills.

Mace Harris

Frank Lesniak

MACE HARRIS (left), former Manager of Pulp Mfg., The Northwest Paper Co., Cloquet and Brainerd, Minn., has been appointed Consultant Manager of Mfg. Succeeding him as Manager of Pulp Mfg. is ROY HELLA, who was formerly Development Engineer.

FRANK J. LESNIAK (right), Chief Engineer for all Masonite Corp. operations, who has returned to his former headquarters at its Laurel, Miss., 900-ton mill. He had been at Ukiah, Calif., in connection with construction and start-up of new plant there (story in July PULP & PAPER).

SAMUEL E. CROCKER, JR. (left), of well known New England papermaking family, has been promoted to Sales Manager for Emerson Mfg. Div. and pulp and paper equipment for John W. Bolton & Sons, Lawrence, Mass. He returns to New England after representing Bolton in the Southeast, out of Pensacola, Florida. Mr. Crocker is a graduate of Harvard, 1931.

GEORGE A. HERMAN (right), who resumed his work in charge of sales for Herman Mfg. Co., Lancaster, O., as Vice Pres. and Sales Mgr., after temporarily serving as President following his father's death. A. E. Holton became Pres. He is Pres. of Essex Wire Corp., which had purchased Herman Mfg. over a year ago and owns 22 companies. Emerson Div. of Bolton is sales agent for Herman Claflin Refiners.

PENNSYLVANIA MILL

EQUIPMENT ORDERED FOR 100-TON PLANT

A GENERAL VIEW OF D. M. BARE PAPER CO., at Roaring Spring, Pa.

The D. M. Bare Paper Co., of Roaring Spring, Pa., has ordered most of the equipment for its new 100 tons-a-day modified soda woodpulp mill and its three stage bleach plant, due for completion about the middle of 1953. About 70% hardwoods and 30% pine from the western Pennsylvania region and the Appalachian pulpwood area will provide the raw material.

This will put Bare back into pulp production, at more than twice the capacity it had when the digester explosion wrote finis to production in its old type soda mill in May 1951. Meanwhile it carried on all this time making uncoated book paper at the rate of approximately 50 tons a day on three Fourdrinier machines, buying market pulp for raw material.

G. D. Muggleton, president, and R. F. Fischer, chairman of the board of the Bare company, are also top officials of the affiliated Combined Locks Co., and Glenn Carroll is general purchasing agent of both companies. Many improvements in process and quality of product are planned.

It is contemplated that a fourth Fourdrinier machine eventually will be required.

The new digesters, three in number and much larger than the former six, are being fabricated by Blaw-Knox Co., using alloy steel linings. Chicago Bridge will supply blow towers. Ahead of these will be a Fibre Making Processes U-Bar drum barker, 12 x 45. and a Carthage 60-inch multi-knife chipper and Link-Belt will provide major portions of conveying equipment for wood and chips.

Impco will supply five washers, two for brown stock, and also deckers and flat screens, the latter with Hardy bronze plates. Improved Paper Machinery Co. is designing and engineering the three stage bleach plant—chlorination, caustic extraction and hypochlorite—and furnishing washers for each. Bleach plant instrumentation will be Brown Instrument Div., Minneapolis-Honeywell equipment.

Babcock & Wilcox is supplying a modern 100-ton capacity recovery boiler and other chemical and recovery equipment includes Swenson evaporators, a Cottrell precipitator and conventional Dorrco causticizing system.

Jerry Porter is manager of the mill at Roaring Spring and vice president of that company. Walter Rudowski will be the pulp mill superintendent. Paper mill superintendent is Joe Dick, technical director is Wayne Stephenson and locally the puchasing agent is Vance D. Myers.

The planning and actual construction at D. M. Bare is under the Combined Locks staff of technical and engineering personnel, of which Harold Vanderhei is chief engineer, and Reinhold Vogt is overall technical director. Mr. Vogt, who is mill manager at Combined Locks, is a product of the Institute of Paper Chemistry with considerable operating experience in pulp manufacture. Mr. Vanderhei is a former engineer with Beloit Iron Works and Consolidated Water Power & Paper Co.

R. F. Dunger is office manager and treasurer at Combined Locks. L. A. DeGuere, of Wisconsin Rapids, is the consultant on this project as he has been in the past for Combined Locks.

G. D. MUGGLETON (left), President of D. M. Bare Paper Co., and GLENN CARROLL (right) General Purchasing Agent for both the Bare and affiliated Combined Locks Paper Co. Both of Appleton, Wis. Mr. Muggleton and R. F. Fischer, Chairman of Bare, are also executives of Combined Locks.

Labrador Mill Plan

Establishment of a pulp or paper mill near Goose Bay, Labrador, where the Canadian government maintains one of the largest airports in the northland, is expected within the near future by executives of Newfoundland & Labrador Corp., which is the Newfoundland government's economic arm in promoting establishment of industries based on the new Canadian province's natural resources. Surveys have shown accessibility to 26,000,000 cords of harvestable pulpwood and hydroelectric potential of 4,000,000 horsepower.

Foresees Big Mill For Newsprint At Juneau, Alaska Within Five Years

B. Frank Hientzleman, U.S. regional forester in Alaska (picture), is confident that a potential 1,000-tons per day newsprint industry will be founded in Juneau, Alaska, within five years. Certain newspaper publishers are discussing an $80,000,000 to $100,000,000 project. Newspaper stockholders would be pro-rated tonnage on the basis of investment. This is a scheme that has been used in financing plants in the South and in Washington state.

Last July Mr. Heintzleman's dream of the first pulp mill in Alaska was assured when construction began for the Puget Sound Pulp-American Viscose project at Ketchikan. Three sawmills are now operating in Alaska government timber, one at Juneau, and a plywood plant also is planned for Juneau. To round out integrated complete utilization of the wood, minimizing waste and reducing logging overall costs, he feels a pulp or newsprint project at Juneau is needed.

Mr. Heintzleman has been Alaska forester for 34 years, most of that time working almost singlehandedly to bring pulp industries to the territory.

ENGINEERING AND KRAFT MEETINGS

New Faces Run Chicago Conference—Link Belt and Crane Cos. Hosts Tours Arranged Thru I.P. and H. & W. Mills for Kraft "Klan" On Mobile Bay

New faces will be directing the performance, and new ideas for discussions are already in evidence in the program, for the Seventh Annual Engineering Conference of this industry, sponsored by TAPPI, scheduled for Mon., Oct. 13 to Thurs. Oct. 17 in Chicago's Morrison hotel. About 700 to 800 will attend

Last day is devoted to visitations at plants of Crane Co., manufacturers of valves and fittings, corrosion-resistant and other types; and of Link-Belt Co., manufacturers of conveyors, chip-trippers, screens, chain drives, P.I.V. drive units and other mill equipment. These are host companies for the convention.

General chairman is Charles J. Sibler, of New York, West Virginia's chief engineer, who stepped up to both posts from a background of steam and power engineering. Co-chairmen for the conference, heading up arrangements and program, are John A. Minser, of Crane Co., and W. R. McNally, of Link-Belt, and both Chicagoans, of course. Another new face in a key post is Walter Bloomquist, General Electric's industrial power engineer from Schenectady, general secretary of the conference And so, sitting on sidelines will be leaders of the past and its founders.

Pulpwood comes in for attention with James E. Holecamp of American Pulpwood Association discussing engineering phases, and Chief Engineer William A. McKenzie of Simpson Logging, Shelton, Wash., discussing small wood production.

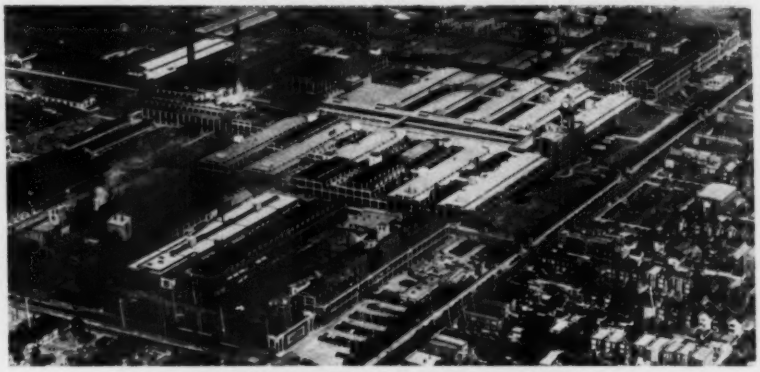
Human engineering will have its moments, too, with A. J. Miller, Jr., assistant director of industrial relations for Mead Corp., giving a similar address to one he is down for before the Southern superintendents at Roanoke, Va., just the preceding week, and George Harper, U. of Illinois, discussing safety.

Government in the industry is a subject assigned Allan Hyer, Bagley & Sewall "veep" and veteran Washington adviser.

Then, of course, there are the standardized divisions to be heard from—steam and power, drying and ventilating, materials handling, maintenance, mill design, machine design, chemical engineering electrical engineering and hydraulics.

Nicholas Shoumatoff, of Mr. Sibler's West Virginia staff, will give a report on digester corrosion measurement, an Inco corrosion movie will be shown, and a corrosion questionnaire be revealed. Already arranged are other talks on power for supercalenders by J. L. Van Nort of Reliance; power for press sections by R. R. Baker of Westinghouse, and mill problems when operating in parallel with a utility, by D. F. Langenwalter of General Electric. Babcock & Wilcox's Frank Gilg is to talk on package steam generator applications.

J. B. Gough, veteran Mead engineer, on machine slices; A. O. Mortenson of St. Regis, Pensacola, on electric cables; R. E. Durst, U. of Maine, on pipe friction loss studies; C. F. Payne, Eastman Kodak, on Cylinder operation, and J. A. Jackson of St. Regis, Jacksonville, on cylinder vats, were other speakers lined up before we went to press



WHAT ENGINEERS WILL SEE IN CHICAGO

ENGINEERING CONFERENCE delegates are cordially invited to tour the CHICAGO WORK of CRANE CO., shown in this air view. Conducted tours are arranged for final day of Chicago convention which wil be Oct. 16. This is world's largest valve and fitting manufacturing plant, covering more than 160 acres.

NEW FACES are running the show for 7th Annual Engineering Conference—Morrison Hotel—Chicago—October 13 to 18. They are (l to r): CHARLES J. SIBLER, West Virginia P. & P. Co. Chief Engineer, General Chairman; WALTER C. BLOOMQUIST, General Electric Co., Schenectady, N. Y., Conference Secretary; HARTLEY R. ARNOLD, Plant Engineer, Riegel Carolina Corp., Riegelwood, N. C., who moved up to Steam & Power Division Chairman succeeding Mr. Sibler; and W. R. McNALLY, Link-Belt's pulp and paper specialist, and JOHN A. MINSER, Alloy Sales Section, Crane Co., who are Co-Chairmen in charge of program and arrangements for the Chicago meeting.

Kraft "Klan" at Mobile

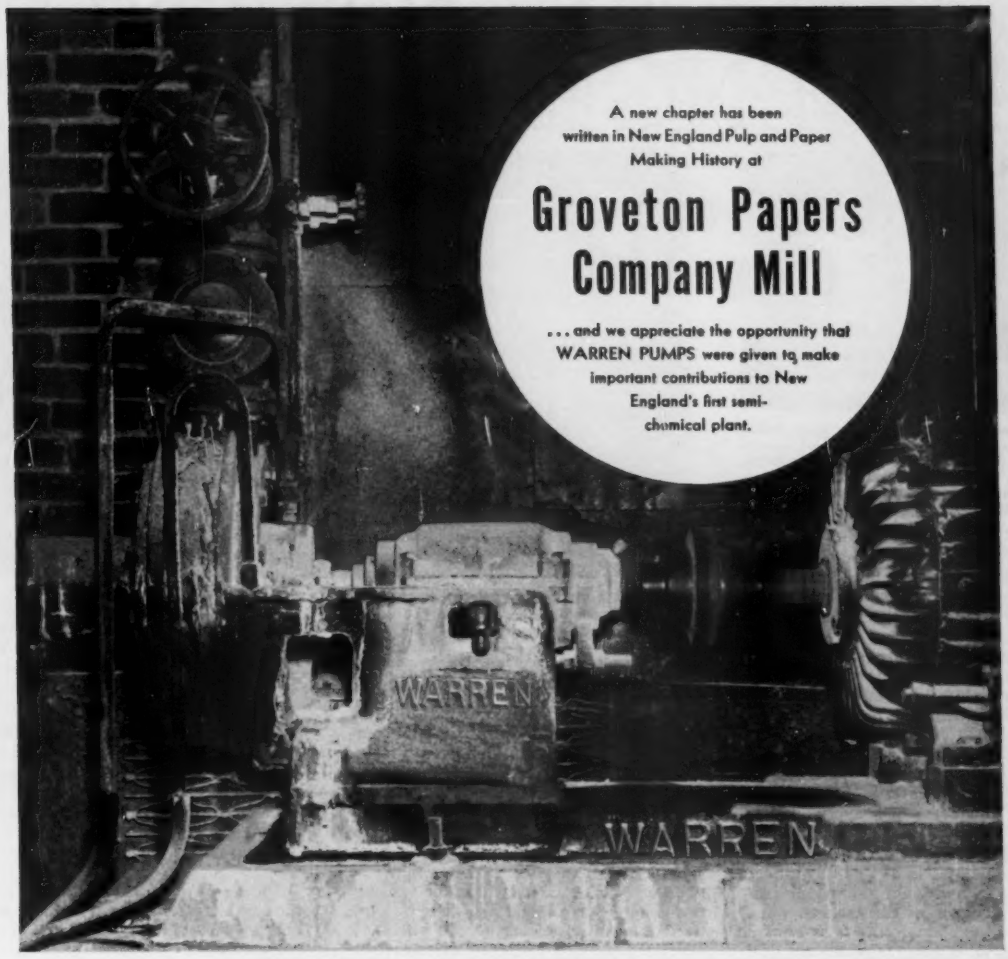
The Sixth Annual Alkaline Pulping Conference—which shares the biggest spotlights with Engineering as the most luring TAPPI-sponsored industry meeting of the fall season—is scheduled for the Battle House in Mobile, Ala., Wed., Nov. 12 to Fri., Nov. 14. The name of the hotel might be a hint of friendly set-tos that may be expected at some of its sessions.

Kraft odor and waste control are going to be featured topics. Several important new experiments along this line are being carried out, and some new developments already have been reported in PULP & PAPER. Just how much of this will be on the program has not yet been divulged.

It is officially announced that International Paper Co., which has a new Central Research Laboratory in Mobile as well as a 13-digester bleached kraft mill and five Beloit Fourdrinier machines, three of them Yankees, making M.F. and M.G. bag wrap and converting, will open its doors to a mill tour for delegates. Also Hollingsworth & Whitney, which has increased production 50% with a Reliance-driven Rice Barton machine, entirely new, and other new additions. It makes a wide variety of kraft, many grades of high quality.

Osborn-Simpson Wedding

Hugh Osborn, 27 of Portland, Ore., new member of General Dyestuff's staff, was married in Las Vegas, Nev., Aug. 22 to Miss Carol Jean Simpson, daughter of a Crown Z accountant at Camas, Wash., Mill. Walter Salmonson of Portland, was best man. George Eberhart, board mill superintendent for Fibreboard at Vernon, Calif., and Mrs. Eberhart were witnesses. The couple are at home at 20 N. W. 16th, Portland.



One of four Warren Pumps at bottom of accumulator tank and absorption tower in new acid plant. This pump is pumping white liquor, one pump is used for circulating each of soda ash accumulators, and two pumps are for the absorption towers. (Groveton Papers Co., Groveton, N.H.)

21 WARREN PUMPS were involved in this project, including a variety of services and conditions, and our pump engineering experience previously acquired on this modern pulping process proved valuable.

New processes or old, there is no substitute for EXPERIENCE, and you can depend upon WARREN for that, and to develop ways and means of successfully solving the Paper Industry's pumping problems.

PP-58

WARREN PUMPS

WARREN STEAM PUMP COMPANY, INC., WARREN, MASSACHUSETTS

SEMI-CHEMICAL PLANT AT GROVETON MILL

NEW ENGLAND'S FIRST

JAMES CAMPBELL WEMYSS, SR. (left), President, Treasurer and General Manager, Groveton Papers Co., and JAMES CAMPBELL WEMYSS, JR. (right), Vice President, on whose shoulders fell much of work of putting new expansion into operation.

When Groveton Papers Co., Groveton, N.H., placed its neutral sulfite semi-chemical plant in operation last fall, it became the first New England mill to use this modern pulping process, and at the same time the first, also, to establish a pulping operation to use softwoods and hardwoods in the relative proportion in which they are available in the area. With the new plant, Groveton has a production potential of 150 tons of semi-chemical, using hardwoods, as compared with 100 tons of sulfite. And the relation of hardwoods to softwoods in the forests of upper New Hampshire and Vermont is approximately 2½ to 1.

These facts were pointed out to a PULP & PAPER editor by James C. Wemyss, Jr., and Robert Schumacher, vice president and sales manager of the company, respectively, in explaining the logic behind their move to combine a semi-chemical plant for the manufacture of 9-point corrugating medium with their traditional sulfite operation for manufacture of tissue and writing papers.

In an analysis of the timber supply in New York and New England made by the U. S. Forest Service in 1945, it was estimated that the volume of spruce and fir totalled 103 million cords as compared with a total of 285 million cords of birch, beech, maple, oak and aspen. And a comparison of annual drain and growth status showed a surplus of only 695 thousand cords of all softwoods, whereas there was a surplus of 4,052 thousand cords of the hardwoods—90% of the latter being birch, beech, maple, oak and aspen.

Although some New England mills have worked for greater utilization of the available wood supply by blending in a small percentage of hardwoods with their softwood pulp, it remained for Groveton to set the stage for a paper-making operation that actually *demanded* the use of more hardwoods than softwoods for its processes.

Groveton Papers Co. owns more than 50,000 acres of timber land in upper New Hampshire and Vermont. But this land is held in reserve, for the greater part, and the major wood supply for the Groveton mill comes from local farmers and pulpwood contractors. The action of the company, therefore, in building a plant for the utilization of the surplus hardwood supply, has met with popular community favor as well as being an economic advantage.

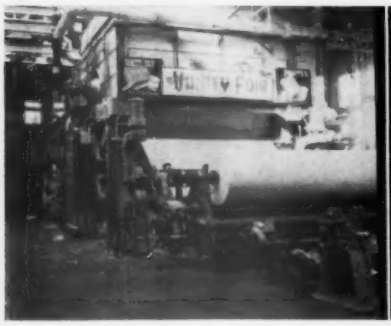
ANOTHER AIR VIEW OF GROVETON PAPERS CO., from a different direction than the one on our cover this month.

The dammed waters of the Upper Ammonoosuc River float an abundant supply of hardwood logs for this company's new neutral sulfite semi-chemical plant—putting hardwoods of Northern New Hampshire into use in proportion to the supply.

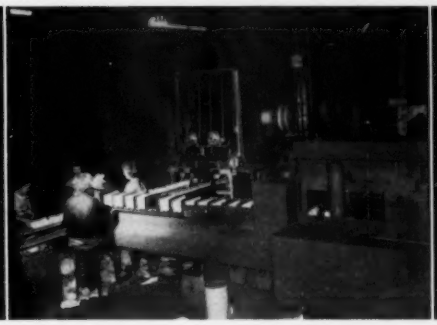
Semi-Chemical Process

The semi-chemical plant at Groveton is the product of hard work and ingenuity on the part of the Groveton Paper Co. management and supervisory force, with the technical advice and assistance of Roderick O'Donoghue, New York consulting engineer, and the engineers of Sprout, Waldron & Co., Inc., who had assisted in the construction of a number of semi-chemical plants throughout the country.

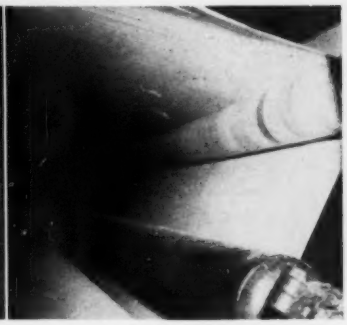
The Groveton system for manufacture of semi-chemical pulp is entirely separate



MISS VANITY FAIR—this is the Pusey & Jones machine at Groveton Papers Co. for running tissue. Lodding doctors are used on the Yankee dryer.



TEAL FOLDER and Reddington Boxing Unit in Groveton Mill's Packaging Room are processing steps in production of the Vanity Fair facial tissue.



MOUNT HOPE MACHINERY CO. supplied this expanding roll on the size press for the No. 1 Machine at Groveton's New Hampshire operations.

ROBERT SCHUMACHER (left), Sales Manager, and WILLIAM H. APEL (right), Controller, of Groveton Papers Co., Groveton, N. H.

OFFICIALS AT GROVETON PAPERS CO. Mill in New Hampshire include (left to right): PHILIP G. COLBY, Manager of Fine Paper Division; S. W. VERRILL, Plant Engineer; E. A. VACHERESSE, Sulfite Supt.; MURRAY ATKINSON, Beater Room Supt.; WHITCOMB PENDRIGH, Master Mechanic.

from that of the regular sulfite operations. The neutral sulfite process employs the use of sodium-monosulfite. In the white liquor make-up, soda ash is dissolved in water and then pumped to the absorption tower to assimilate SO2 gas from the sulfur burner. Warren Steam Pump Co. pumps are used at this point for circulating the soda ash mixing tanks, and for pumping through the absorption tower.

This white liquor is made of approximately 3½ parts soda ash to 1 part of sulfur with an iodine test of about 21 mgms. From the storage tank, the liquor is pumped to the two Portland Co. (Me.) digesters. These are vertical digesters, with one holding a charge of 26 tons and using about 23,000 gallons of make-up liquor, and the other holding 23 tons and using 19,000 gallons of liquor per cook. Cooking time per charge is 8 hours before blowing. The 75-ton blow tank was also built by Portland Co. and is equipped with a Shartle agitator and Foxboro Consistency control.

In the Groveton installation, the practice is to pump the chips in hot liquor from the blow tank to a simply-constructed de-watering rig on a floor above the refiners. Stock is humped at about 7-8% consistency and is delivered to the refiners at 14% solids. The de-watering conveyor has a drag-type Link-Belt chain which pulls the stock over a stainless steel flat screen with ⅛ inch perforations, and out through a special feeder system for discharge to the refiners.

The hot, thickened stock flows directly over Dings magnetic separators, for removing tramp metals, and into the refiner inlet screw.

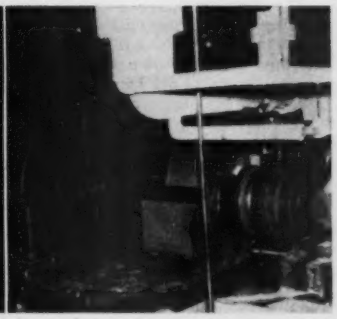
Four Sprout-Waldron model 36-2 refiners are lined up in battery formation in the Groveton one-pass semi-chemical operation. Each refiner is capable of handling 40 tons of stock per day, and is driven at a speed of 900 rpm by a 450 hp motor. The refiners are equipped with control ring mechanism so that operators may control or regulate the peripheral discharge of the stock by restricting the clearance between the ring segments and the refining segments. All mechanical parts of the refiners are of solid stainless or stainless steel lining, except the refiner plates which are of a white iron with a high Brinell hardness.

From the refiners the semi-chemical stock goes through two Bird Jonsson stainless steel screens. Rejected stock flows to a reject tank and is pumped from there to the blow tank for another pass through the system along with the sulfite mill knots and screenings. The accepted stock goes to a tank, and then is pumped

HERE'S REBUILT No. 3 MACHINE at Groveton now an semi-chemical with DOWNINGTOWN 160-in. couch and press rolls and ROSS head prominent.

WARREN STEAM PUMP CO. provided this 8,000 gallons per minute Fan Pump to serve No. 3 Semi-Chemical Machine at Groveton Mill.

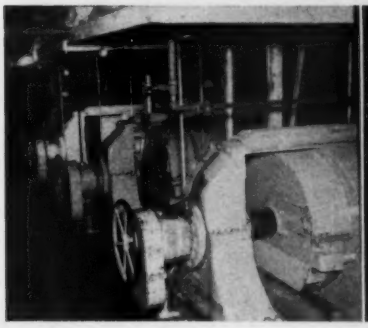
GENERAL ELECTRIC Steam Turbine for Groveton's No. 3 Machine, with 500 Hp. operating at 450 lbs. pressure with 125 lbs. extraction.

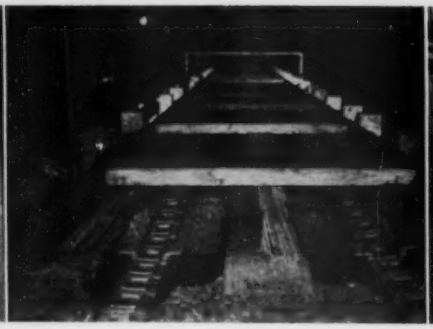


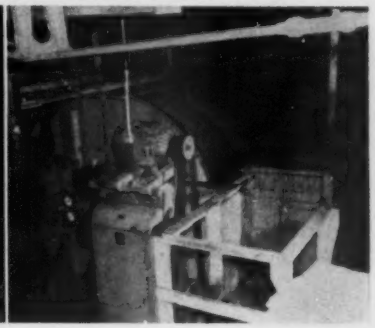
IN GROVETON'S NEW SEMI-CHEMICAL PULP PLANT—battery of four 450 hp. SPROUT-WALDRON Refiners of 40 tons daily capacity.

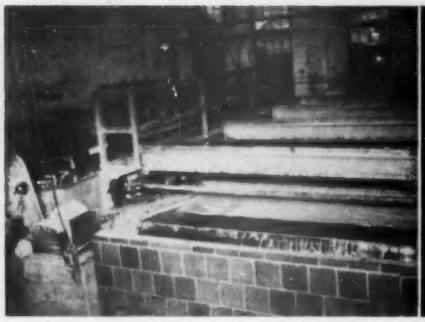
LINK-BELT motor-driven feeder system for hot stock to refiners in Semi-Chem Plant with Link-Belt chains in main conveyor.

IMPCO WASHER for handling Groveton's semi-chemical pulp with variable speed drive and Goodrich V-belting is shown here.



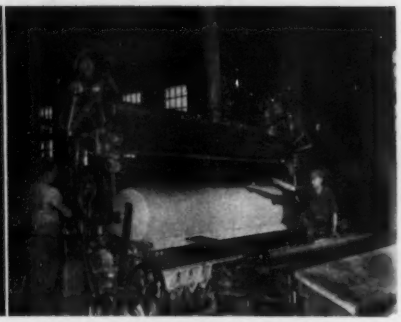






VIEWS AT GROVETON'S NO. 4 Machine—this shows Svaen Pederson Save-All which serves No. 4. Swift's Bone Glue is used for flotation.

LOOKING ACROSS to No. 4 Machine in Groveton Mill. In Foreground the Fourdrinier wire of rebuilt No. 3 Semi-Chemical Machine is visible.



CAMERON WINDER, No. 16 Size, takes rolls off Groveton's No. 4 Paper Machine. This is one of machines making tissue at this mill.

to the Improved Paper Machinery Co. brown stock washers.

There are two Impco 8 x 8-foot washers, which wash the hot brown stock at 1¾% consistency. From washed storage chest, the semi-chemical stock is pumped by another Warren pump for final refining before reaching the machine. Two refiners are used here—an E. D. Jones Sons 350 hp Majestic jordan, and a Noble & Wood 450 hp Mammoth Senior stainless steel jordan.

From the jordans the stock goes to the Warren fan pump, capable of handling 8000 gallons of stock per minute, and is pumped to the machine by way of a pre-headbox, and two more Jonsson screens. Stock passes over all stainless construction from the headbox to the wire. The Jonsson screens, by the way, are said to be the first for handling semi-chemical stock after primary refining, to be installed in this country.

The semi-chemical pulp is used for making 9-point corrugating medium on Groveton's re-built No. 3 machine. This machine trims 146 inches, and runs at an average speed of 615 feet per minute with a declared maximum of 1000 feet.

As has been previously described, black liquor from the blow tank serves as the vehicle for the stock right through the system to the washing system ahead of the machine. The removed black liquor from the stock at the washers is pumped back to the digesters to mix with new white liquor. This make-up liquor consists of about 60% black and 40% white liquor.

The Results at Groveton

What are the results with semi-chemical at Groveton? So far the pulp has only been used for making corrugating medium. Here it has proved most satisfactory, with an average Mullen test of 50, and average Ring test from 45 to 65. Pulp yield has gone as high as 80%, which is also considered most satisfactory.

Although nothing definite along that line has been announced, the manufacture of corrugating medium from semi-chemical may be only the beginning at Groveton. There are many other products made at the plant into which this pulp may enter, and that may well be part of the larger plan.

Looking back again at the overall operation, these seem to be features of the Groveton semi-chemical system worthy of special observation:

1. Use of sodium-monosulfite white liquor, and re-use of 60% of black in the make-up liquor for the digesters.

2. Use of a single-pass, two-stage refining system, with stock held at high consistency in the Sprout-Waldron disc refiners for defibering without excessive cutting, and then washing before sending through the second stage refiners for cutting, fibrillating, etc. for good stock formation on the machine.

3. Screening of stock on Jonsson screens after each stage of refining to improve quality of the sheet.

4. Use of vertical-type digesters, and a common blow tank.

All in all, it is an interesting operation, and one that Groveton Papers Co. may well be proud of pioneering in the New England area.

Extensive Groveton Improvements

The building of the semi-chemical plan at Groveton is just part of a post-war improvement program which is still continuing and the overall cost of which will reach approximately $5,000,000. The program has affected practically every phase of the extensive Groveton pulp and paper and converting operations, and has included the following:

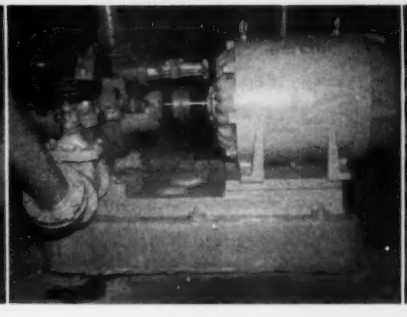
Power Plant—This plant is completely new and housed in a new building. It contains a 200,000 lb. per hour Combustion Engineering boiler; 4500 kva General Electric turbine with Brown Instruments control panel; Morris centrifugal pump for utilization of by-product water from the de-inking plant; Elliott turbines and Ingersoll-Rand pumps for boiler feed; and Diamond soot blower controls.

The C-E boiler operates from either oil or pulverized coal at 450 lbs. pressure; and the G.E. turbine extracts steam at 125 lbs. for the digesters, and 25 lbs. for paper machines and auxiliary equipment power. There is also a 500 hp General Electric turbine which operates at 450 lbs. pressure and 125 lbs. extraction for heating the 150 lb. pressure dryers on No. 3 semi-chemical machine.

New Jeffery equipment was secured for coal handling, and installation was made of an Allen-Shermanhoff ash handling system.

Pulp Preparation—In addition to the in-

IN GROVETON'S new COMBUSTION ENGINEERING Boiler Plant, there are three ELLIOTT CO. TURBINES, as shown, driving INGERSOLL-RAND pumps.

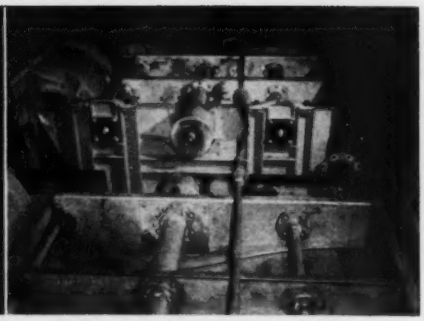


MORRIS CENTRIFUGAL PUMP, in Groveton's Turbine basement—this is for use of by-product water, 1,000 g.p.m. from De-Inking Plant.

RICE BARTON DYNAPULPER No. 9 handles de-ink stock at Groveton Mill. Here is a close-up showing circulating action inside Dynapulper.

NOBLE & WOOD Refining unit for rebuilt No. 3 Semi-Chemical Machine's stock preparation at Groveton Papers Co. New Hampshire Mill.

E. D. JONES & SONS 350 HP. Refiner is another key processing installation ahead of the No. 3 Machine at the Groveton Mill.



BIRD MACHINE CO. JONSSON Knotters made of stainless steel, at Groveton, are said to be first in U. S. of this type handling semi-chemical.

stallations for the semi-chemical process, installations were made in the sulfite process acid plant of one 24-foot and one 28-foot Horton sphere with Stebbins lining. Magnus Metals Co. stainless steel valves are at the bottom of these spheres with Minneapolis-Honeywell controls at the top (see photos), and stainless steel piping for liquor handling was fabricated by Michigan Steel Casting Co. The Horton sphere was made by Chicago Bridge & Iron.

For handling de-ink stock a No. 9 Rice Barton Dynapulper was installed ahead of No. 4 machine. In the bleach plant was added one 125-ton capacity Improved Paper Machinery Co. rubber-covered washer, with an identical Impco used for a thickener.

Machine Room—New post-war Groveton machine is its 160-inch Pusey & Jones Yankee Fourdrinier with a 146-inch trim. This is the tissue machine with a capacity of 25 to 30 tons per day and running at speeds up to 1350 feet per minute. This machine has General Electric Amplidyne drives, J. O. Ross Engineering Co. hood, a pressure slice, and operates without a headbox. A Lodding creping doctor blade operates on the Yankee dryer, and Cameron winder takes off the machine.

Interesting installation on this No. 4 tissue machine is that of two Emerson midget jordans. These jordans, driven by 40 hp motors, easily handle the stock preparation for the 30 tons maximum requirement of the machine. Two Sveen Pederson savealls are also on this machine, using Swift's bone glue for flotation.

Most completely rebuilt machine was No. 3, for running the 9-point semi-chemical. This machine trims 146 inches, and will handle from 125 to 150 tons per day. New sections of this machine include Downington 160-inch couch, and first and second suction press rolls; J. O. Ross Engineering Co. ventilating hood; a new section of 13 Downington 150 lb. pressure dryers; Midwest-Fulton pressure drying system with Mason-Neilan automatic controls; Sandy Hill Hypoid drive for driving the new dryer section; H-11 Nash vacuum pump—one of three in machine basement—; General Electric Amplidyne control system; and Johnson steam valves on the dryer section.

Bird Dirtecs are installed for both No. 4 and No. 2 machines. *Finishing and Converting*—This is one of the most modern units of the whole operation. For handling facial tissue, Groveton now has a Teal folder and Reddington automatic boxing unit; and has new equipment just placed in operation for automatic packaging of bathroom tissue. Other equipment includes a new 50-inch, 5-color Kidder press used for candy wraps, box covers etc.; a new 2-color miehle press; and complete new wide range disced Smithe envelope manufacturing equipment—the most modern in the business.

On the two fine paper machines—called No. 1 and 2 and trimming 101 inches—Downington suction couches and first and second presses were installed with Nash L-9 and L-7 pumps. These machines are Bird Dirtecs equipped and have Noble & Wood refiners.

The program is far from over, as young Wemyss and Bob Schumacher, who have carried much of the load for its progress, aver. Already they are planning installation of a new machine, and there are other areas of the operation where improvement and new equipment must enter.

But what has been accomplished has been considerable. And an old mill is taking on a new look, and an old name, Groveton, has pioneered a new process—semi-chemical pulping of hardwoods in New England.

GROVETON'S HISTORY AND TRADITIONS

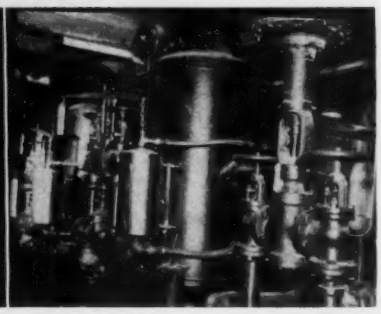
Just as the Upper Ammonoosuc River frees itself from the northernmost slopes of the White Mountains and begins its short run to join the Connecticut River to the West—there is Groveton, N.H. To the North, a scant 26 miles, is Canada. To the East, a last range of the Whites spills the historic Androscoggin off in another direction to wind its colorful course through Maine to the Atlantic. And all about, on the slopes and rolling hills of northern New Hampshire and Vermont, are the forests of spruce, fir, pine and hardwoods that have supplied the pulp mills of the area for the greater part of a century.

This is the setting, and the tradition, of which Groveton Papers Co. is part and parcel. It is one of the oldest mills; it is one of the earliest important producers of

SANDY HILL HYPOID CORNER DRIVE is used at Groveton Papers Co. in driving the new high pressure dryer section for No. 3 Machine.

GENERAL ELECTRIC Control Panel for control of Sprout-Waldron battery of Refiners in new Semi-Chemical Pulp Plant of Groveton Mill.

MIDWEST-FULTON Pressure Drying System in No. 3 Machine Basement. Flash tanks flash 125 to 40 to 35 to 30 lbs. and return to boiler plant.



DIAMOND SOOT BLOWER controls for new Combustion Engineering Boiler at Groveton Mill.

MINNEAPOLIS - HONEYWELL (Brown Instrument) controls Sulfite Mill Hot Acid Recovery, on Horton sphere.

ALLEN-SHERMAN-HOFF Ash Collecting System beside Groveton's new Boiler Plant.

FOXBORO "STABILOG" Controller records level of blow tank semi-chem stock and controls dilution.

an important paper product—tissue; and, as the accompanying story describes, it is now the first in New England to employ a new method of pulp manufacture.

This mill is one of the most diversified producers in the industry. Groveton turns out a variety of finished products that include facial and toilet tissue; envelopes; writing papers; school tablets; ruled ledger paper; wrapping paper; napkins; single roll and folded towels; waxed papers; soap wrappers; drawing papers and papers for drinking cups. Groveton trade names are "Vanity Fair," "Blue Ribbon" and "Protex" for household supplies, "Whitefield" for school supplies, and "Dello" for bond and mimeographing paper.

The physical part of the present plant traces its beginning to 1894 when the Odell Mfg. Co. started building a sulfite mill at Groveton. This was taken over by Groveton Paper Co. in 1919, and then acquired by the present Groveton Papers Co. in 1940.

Present head of Groveton Papers is James C. Wemyss, president and treasurer, whose father, James S. Wemyss, put his family in the tissue business when he opened a plant for its manufacture in 1909 at Greenpoint, N.Y., under the name of Rushmore Paper Co. In 1922 the Wemysses established the Wyoming Valley Paper Co., at Northumberland, N.H., which later became Groveton Paper Co. and then was changed to Groveton Papers in 1940 with the purchase of the plant at Groveton, N. H.

At present the following plants are operated by the same owner-management:
Groveton Papers Co., Groveton, N.H. 250 tons capacity. Tissue, various papers and corrugating medium.
Groveton Papers Co, Northumberland, N.H. 25 tons. Tissue.
Rushmore Paper Co., Gouverneur, N.Y. 60 tons Tissue.
Lotbiniere Pulp & Paper Co, Ltd., Danville, Que. 40 tons. Groundwood.

Other officials include James C. Wemyss, Jr., vice president; Frank Moses, secretary; and Robert Schumacher, sales manager; Wm. C. Newsom, sales manager fine papers division; Chas. W. Clark, sales manager corrugating board division; Wm. H. Apel, controller; and Guy Cushing, paper mill superintendent.

NEW DIGESTER AT FILER CITY

This picture by a PULP & PAPER editor was taken as this carbon steel digester (11 ft. x 1¾ wall and 23 ft. x 2 in., tangent to tangent) arrived at American Box Board Co., in Filer City, Mich., for expansion of its semi-chemical pulp mill. Fabricated of ASTM-A285 Grade B modified steel plate with controlled silicon and oxygen analysis. Field corrosion tests by A. O. Smith resulted in observed preference for steels of extreme low silicon as compared with silicon-killed steels for this service. The composition of the weld metal for thick walled digesters with a corrosion allowance of about one inch, such as this digester, is important and shoud have comparable corrosion properties to the plate material, say A. O. Smith researchers.

New Lignosol Plant

A new $1,250,000 plant which will promote fuller wood utilization in Quebec has been launched by Lignosol Chemicals, Ltd., headed by F. T. Atkinson, president and general manager.

The process consists of separating lignin from water by evaporation of spent liquor from the Quebec City plant of Anglo-Quebec Pulp & Paper Mills. Lignosol is shipped as a molasses-like liquid, or as a brown powder. Various forms of Lignosol are expected to have a sales value during the first year of some $700,000. Lignosol is used for gravel stabilization, as a binder for refractory brick, a strengthener for ceramic products, a foundry core binder and ingredient for linoleum cement.

NORTHEAST NOTES

JOSEPH E. DUFFEY, vice president in charge of production and *A. DOUGLASS HALL*, financial vice president, have been elected to the board of Diamond Match Co.

BEN B. RAUCHER has been national sales director of National Paper Corp., Ransom, Pa. He was former executive head of Golden Fleece Tissue Mills.

DOUGLAS B. LITTLEWOOD has been elected secretary and *FRED A. WAGNER* assistant treasurer and auditor of National Gypsum, Buffalo, N.Y.

GEO. M. BURRUS, assistant to the president, has been elected vice president in charge of board sales and public relations of United Board & Carton, New York. He is a University of Illinois graduate and was 21 years with U. S. Gypsum.

CHARLES E. RADLEY, vice president in charge of operations and a director of Columbia Box Board Mills Inc. in Chatham, N. Y., was "saluted" in Noble & Wood's August Agitator as Papermaker of the Month. He was cited a self-made executive who started at 14 in Carthage, N.Y.'s old LeRay Mill as broke boy. It said he still can be found in the Chatham and Mellenville mills every day.

Strathmore Paper Co., West Springfield, Mass., has advanced *H. PAUL KIMBALL* to manager of mill sales; *WILLIAM G. HOLMES* to field sales representative and associate manager of mill sales; and *KENNETH E. FALES* to field sales representative in the Southeast. Mr. Kimball replaces *NELSON FEELEY* who has joined Hawthorne Paper Co., Kalamazoo, Mich., as general sales manager.

Pulp Addition Next Year

MacMillan & Bloedel, Ltd., has completed a 380x60 ft. deepsea wharf for its bleached kraft pulp mill, near Nanaimo, B. C., and loading of the first deepsea ship there on Aug. 30 was marked by a ceremony attended by Vancouver Island executives and officials.

New pulp production units under construction will be completed next year. Total cost of the mill is estimated at about $40,000,000.

MANY CALL GROVETON "ALMA MATER"

AMONG GROVETON "ALUMNI"

From Coast to Coast, in both U. S. and Canada, you will find "alumni" of the little mill at Groveton, N. H., and its predecessor company, practicing what they learned there in the industry. Among them are: PAUL FORTIER, Gen. Supt., Everett Pulp & Paper Div. of Simpson Logging Co., Everett, Wash.; JAMES S. REED, Bond Mill Supt., Fraser Paper Ltd., Madawaska, Maine; HOWDY VANDENBERG, Sales Rep., Staley Mfg. Co., Decatur, Ill.; RAYMOND S. BARTON, Gen. Supt., Michigan Paper Co., Plainwell, Mich.; WILLIAM H. ASTLE, Beater Room Supt., also at Michigan Paper, and ROBERT B. STEWART, Supt., Kalamazoo Vegetable Parchment Co., Parchment, Mich.

Groveton is "Alma Mater" to a goodly number of paper makers and others who have branched out into allied industries. They are to be found today in many regions where pulp and paper is made in North America.

The preceding article tells how this mill had its beginnings back in the late 19th century. It became one of those mills regarded as a "school" for papermakers. Its sons have traveled far and wide to put into practice what they learned at Groveton.

It probably would be impossible today to present a complete list of the men in the industry who got their start at Groveton. But Ray Barton, general superintendent, and William H. Astle, beater room superintendent, both now at Michigan Paper Co., got their heads together and compiled for "PULP & PAPER" this list, which they admit is incomplete:

Victor E. Fishburn, Burgess Cellulose Co., Freeport, Ill.

Abe Vanderberg, retired, Kalamazoo, Mich.

Howard Vanderberg, A. E. Staley Mfg. Co., Decatur, Ill.

James S. Reed, Fraser Paper Ltd., Madawaska, Me.

E. D. Hyndman, Halifax Power & Pulp Co. Std., Sheet Harbour, N. S., Canada.

Hawey Lacombe, Fraser Paper Ltd., Madawaska, Me.

Henry Verow, Kalamazoo Vegetable Parchment Co., Parchment, Mich.

Barney McMann, Fraser Paper Ltd., Madawaska, Me.

Jack C. Nutter, John Inglis Co. Ltd., Toronto, Canada.

Clyde W. Stewart, Marcalus Mfg Co., Lincoln, N. H.

E J. McDonnell, International Paper Co., North Tonawanda, N. Y.

Paul Fortier, Everett Pulp & Paper Div., Simpson Logging Co., Everett, Wash.

Robert B. Stewart, Kalamazoo Vegetable Parchment Co., Parchment, Mich.

William H. Astle, The Michigan Paper Co., Plainwell, Mich.

Kenneth Moses, Champion International Co., Lawrence, Mass.

Raymond L. Barton, The Michigan Paper Co., Plainwell, Mich.

Everett G Walker, French Paper Co., Niles, Mich.

Stillman W. Shannon, retired, Reading, Pa.

Lloyd Brann, S D. Warren Co., Cumberland Mills, Maine.

Ralph Calkins, Fitchburg Paper Co., Fitchburg, Mass.

Canadian Bobcat in Ohio

It happened a while ago, but the stout-hearted Kentucky mountaineer who opened the car of pulp that day at Sorg Paper Co., Middletown, O., still trembles at the thought!

A car of MacMillan & Bloedel unbleached kraft arrived at Sorg after 20 days in transit from Port Alberni, B.C. As the Kentuckian opened the door, a streak of gray greased lightning took off over his head—almost taking his head along—and disappeared in two loping bounds into brush near the mill.

As reconstructed later by the staunch Sorgite, Middletown police and local wild game hunters, the animal was a wildcat, mountain lion or lynx that had climbed into the car at Port Alberni and had then been locked in. The animal was reported in a number of places, and so far as is known still lives.

McGoldrick Becomes Price & Pierce N. Y. Mgr.

W. B. McGoldrick, formerly second in command in New York office of Price & Pierce, Ltd., wood pulp importers and exporters, has succeeded the late H. A. Hughes as manager, according to announcement made by Anthony Benn, managing director, in London.

VANCOUVER, WASH., MILL IS ON AMMONIA

The fourth sulfite mill on the West Coast to go over to ammonia (Anacortes was third), Columbia River Paper Mills plant at Vancouver, Wash., converted from calcium to ammonia base this summer without stopping production.

This transition, worked out a step at a time, involved converting one of three Jensen towers to ammonia use while the other two continued on calcium base. Upon conversion of the first tower, it carried the production load while another one was being converted. During the change-over, which was completed in midsummer, production ran strongly to light papers to reduce load on the pulp plant.

According to T. R. Probst, assistant general manager, early results following the change-over indicate that the desired properties of ammonia base pulp have been obtained and the costs are about as anticipated.

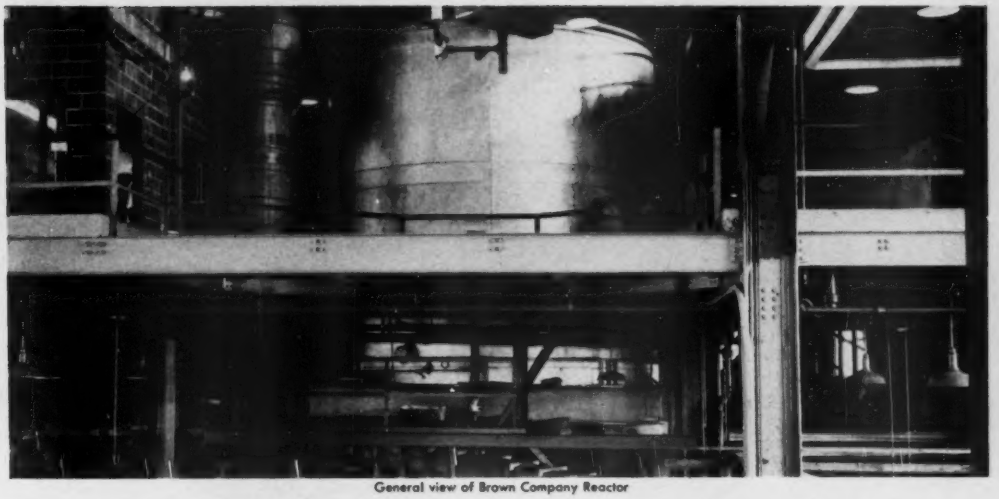
The conversion involved installing facilities for unloading and storing the ammonia, mixing equipment, and packing Jensen towers with cross partition tile, using U. S. Stoneware Co. tile obtained through and installed by Stebbins Engineering. Equipment was added for pumping and metering to the acid making towers and stainless steel pan installed for even distribution of ammonia solution in the receiving tower.

The company objectives in making the conversion include: (1) Better and more uniform pulp quality, (2) increased yield from the wood used, and (3) possible increase in production by substantial amount at some future date.

The program has resulted in "much better control of the amount of base added," according to M. C. Kaphingst, pulp mill superintendent. "Putting ammonia in by pump through meters gives absolute control."

With the same time—cycle cooking schedule as for calcium base, lower temperatures are used and higher fiber yields obtained. The resultant stock is more easily screened than stock from calcium base cooks, makes stronger and more uniform pulp, and a better paper sheet.

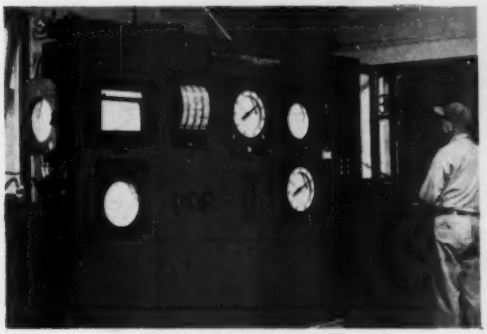
Rayonier at Shelton, Wash., and Crown Zellerbach at Lebanon, Ore., are on ammonia base and it was announced in PULP & PAPER last month that Scott's Anacortes, Wash., mill would change over.



General view of Brown Company Reactor

First Dorrco FluoSolids* Reactor For Producing SO_2 Goes "On Stream" at Brown Company

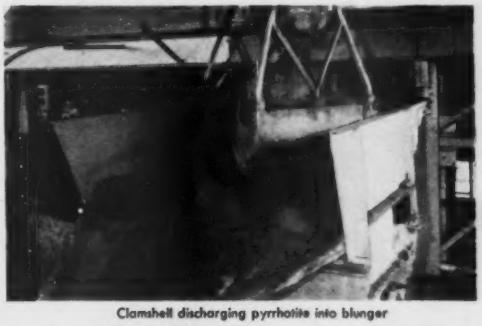
BERLIN, N. H. In anticipation of a continuing sulfur shortage, The Brown Company at Berlin, N. H. recently installed a Dorrco FluoSolids System to produce SO_2 gas from pyrrhotite. The System at the present time is supplying the entire sulfur requirements of this sulfite pulp mill . . . 11,000 tons of sulfur equivalent per year. A producer of quality pulp for high-grade photographic papers, Brown requires clean, high-strength SO_2 gas to make their sodium sulfite cooking liquor.



Centralized control panel

RAW MATERIAL FORMERLY A WASTE PRODUCT

The pyrrhotite, recovered from tailings of a nearby copper mine, is received in a moist condition, repulped with water to 70-75% solids, and pumped into the Reactor. By operating close to theoretical oxygen requirements, the strongest possible SO_2 gas is produced, with a black magnetite calcine which is quenched and handled in slurry form. Roast is accomplished in a 16′ inside diameter Reactor with the temperature automatically held at 1650°F.



Clamshell discharging pyrrhotite into blunger

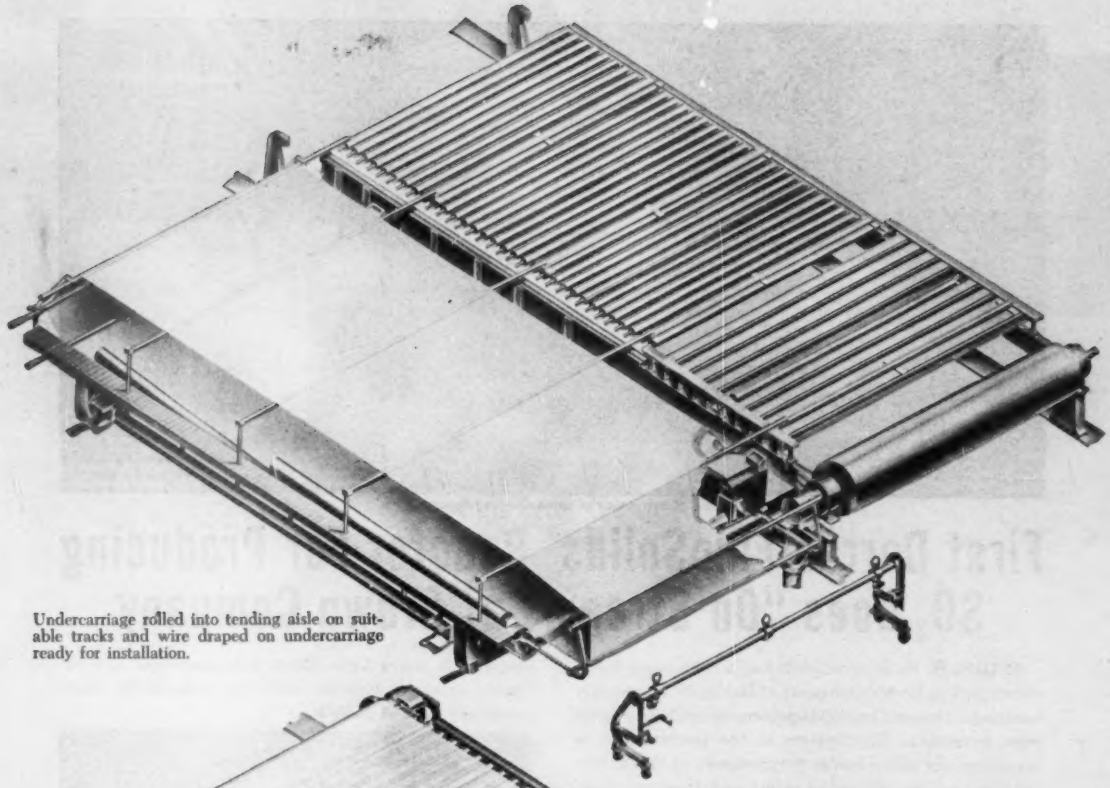
HIGH STRENGTH SO_2 PRODUCED

Gas strength at the top of the Reactor averages 13% SO_2. The gas then passes through a two-stage cyclone system followed by a cooling-scrubbing tower before going to the acid towers. Average chemical analysis of feed and calcine follows:

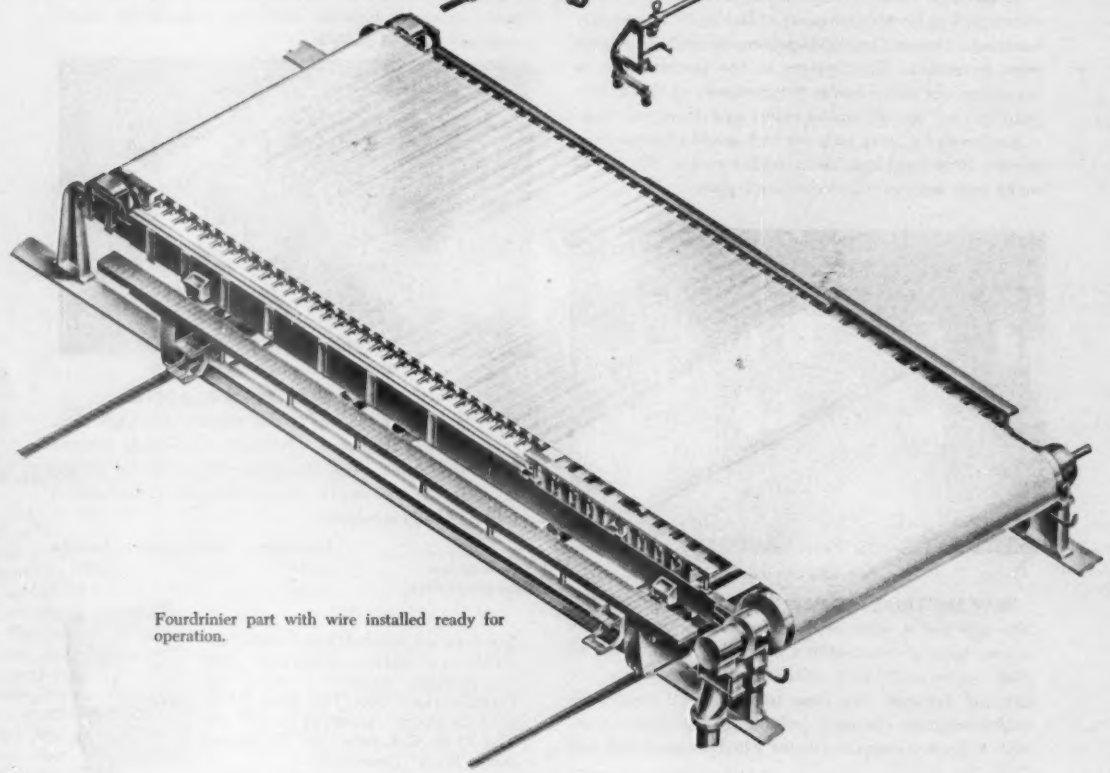
	Total Sulfur	Sulfide Sulfur	Total Fe
Pyrrhotite Feed	35.7	35.6	49.1
Combined Calcine	0.51	0.49	60.9

For detailed information about FluoSolids — a distinct departure from conventional roasters — write for Bulletin No. 7500. The Dorr Company, Stamford, Conn. or in Canada, The Dorr Company, 80 Richmond Street West, Toronto 1.

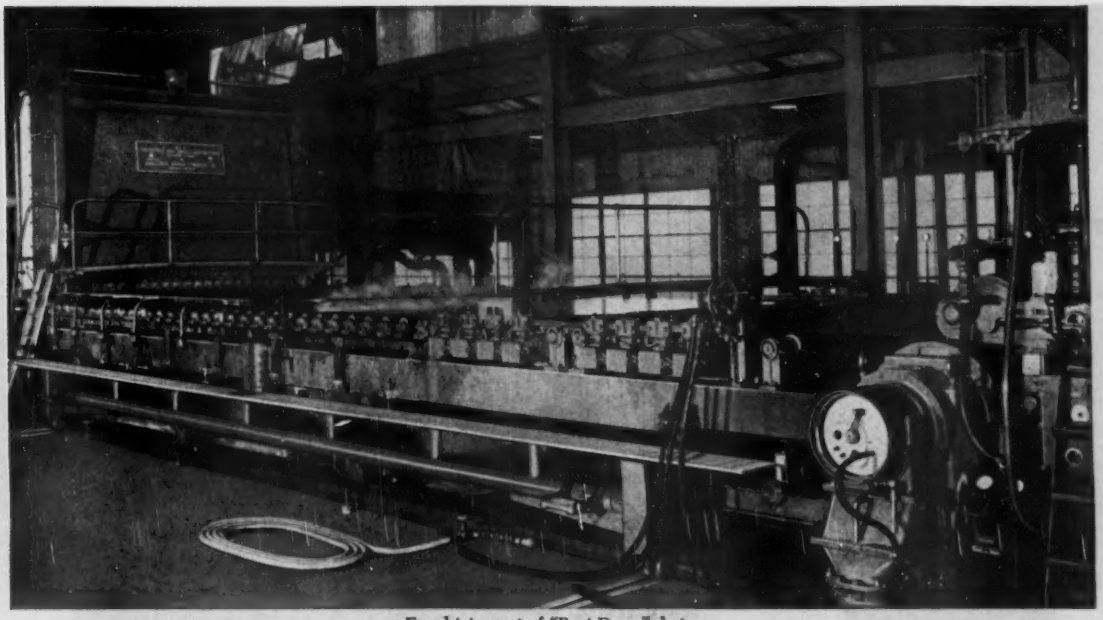
* Trademark Reg. U. S. Pat. Off.



Undercarriage rolled into tending aisle on suitable tracks and wire draped on undercarriage ready for installation.



Fourdrinier part with wire installed ready for operation.



Fourdrinier part of "Rapi-Drape" design.

"RAPI-DRAPE" Scores Again

"Rapi-Drape" Wire Handling is now being used successfully in these outstanding mills:

P. H. Glatfelter Co., Spring Grove, Pa.
Southland Paper Mills, Inc., Lufkin, Texas
Hollingsworth & Whitney Company, Mobile, Ala.
Southern Advance Bag & Paper Co., Hodge, La.
St. Mary's Kraft Corp., St. Mary's, Ga.
Union Bag & Paper Corp., Savannah, Ga. (2)
Hudson Pulp & Paper Corp., Palatka, Florida (2)
Southern Paper Board Corp., Port Wentworth, Ga.
Fibreboard Products Inc., East Antioch, Calif.
St. Regis Paper Co., Tacoma, Wash.
Calcasieu Paper Co., Elizabeth, La.
San Rafael Paper Co., Mexico, D. F.
Papierfabrik Utzenstorf, Switzerland
National Newsprint Co., Ltd., India
Container Corp. of America, Cali, Colombia, S. A.
Brown Paper Mill Co., Monroe, La.

On order for:

Nekoosa Edwards Paper Co., Port Edwards, Wis.
Union Bag & Paper Corp., Savannah, Ga.
St. Joe Paper Co., Port St. Joe, Fla.
West Tacoma Newsprint Co., Tacoma, Wash.
Fraser Paper, Ltd., Madawaska, Me.
Camp Mfg. Co., Franklin, Va.

One of the largest southern mills reports a complete wire changing record of 65 minutes down-time from reel to reel. This particular fourdrinier wet end is equipped with wire 236" wide and 120 ft. long.

In addition to all new Puseyjones machines equipped with this efficient wire changing device, the mills have found it profitable to change over old machines due to the many advantages obtained. Under construction at present are 3 fourdriniers, one 194", one 212" and one 220" wire width, equipped with "Rapi-drape" that will replace old style removable type originally supplied with each machine.

In "Rapi-drape" Wire Handling, pioneered by Puseyjones, the fourdrinier as a unit remains in the operating position. The back side of the fourdrinier is supported on rigid frames and the front side on a removable hydraulic power-operated under-carriage so that the fourdrinier is supported in perfect alignment at all times. It is unnecessary to detach the shake, suction boxes or shower piping. The only parts which must be removed are the dandy roll, deckle and cut squirts.

The results in terms of fast, safe wire handling are acclaimed by the many responsible operators and engineers who have this equipment in use. Be sure that your next machine is equipped with "Rapi-Drape" Wire Handling – one of many design improvements and labor-saving devices developed by Puseyjones.

THE PUSEY AND JONES CORPORATION

Established 1848. Builders of Paper-Making Machinery
Fabricators and Welders of all classes of Steel and Alloy Products

Wilmington 99, Delaware, U. S. A.

THE SIGN OF TRADE MARK SUPERIOR QUALITY

when you specify light wall schedule 5 pipe

WHAT SCHEDULE 5 PIPE IS—
A light wall pipe, Carpenter Schedule 5 gives you more feet of pipe for every pound of scarce stainless steel. So you can quickly see how Schedule 5 reduces your cost per foot. Plus the fact that the larger I.D. means increased flow area.

HOW SCHEDULE 5 REDUCES COSTS
First saving is 40% to 50% on the cost of your pipe.

Since Schedule 5 is considerably lighter, this means quicker and easier installation.

And, because the increased capacity of Schedule 5 lets you use the next smaller pipe size, you can reduce substantially your costs of valves, fittings, etc.

FITTINGS ARE AVAILABLE
This pipe is easily adapted to use with existing lines of tubing or Schedule 40 and 10 pipe, using simple connectors. Fittings as well as stocks of Schedule 5 pipe are carried by conveniently located Carpenter distributors.

ADDITIONAL ADVANTAGES

Tubing sizes can now be replaced with light wall *pipe* . . . for ready hook-up with standard valves, pumps and other equipment which is normally manufactured in pipe sizes.

Data Sheets give you complete information about Carpenter Schedule 5 Stainless Pipe. Write for your personal copy. THE CARPENTER STEEL COMPANY, Alloy Tube Division, Union, N. J.
Export Dept.: The Carpenter Steel Co., Port Washington, N.Y. "CARSTEELCO"

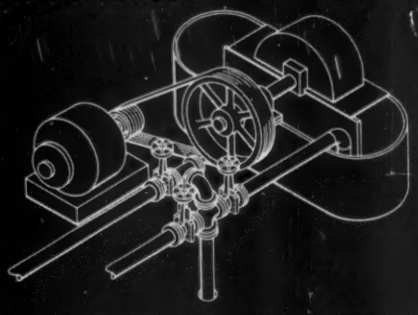
Carpenter

STAINLESS TUBING & PIPE

- guaranteed on every shipment

How Do Your Valves Rate After 11 Years' Use?

...in Pulp Lines to Beaters, for instance



THE INSTALLATION

Crane Iron Body Pulp Stock Valves in piping to beaters in a large eastern paper mill.

VALVE SERVICE RATINGS

SUITABILITY:	No problems—hundreds used throughout plant
FEATURES:	Non-clogging design—always easy to operate
SERVICE LIFE:	Many in use more than 11 years—still O.K.
MAINTENANCE COST:	No repairs needed on any valve since installed
OPERATING RESULTS:	No shutdowns for any valve trouble
PRICE:	Competitive with other makes
AVAILABILITY:	Regular Crane product

THE HISTORY

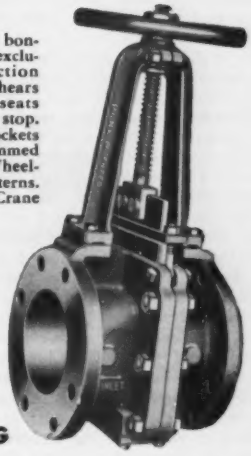
The beater room is where, more than 11 years ago, this mill started standardizing on Crane Pulp Stock Valves. Average consistency of stock in beater lines is 3½ to 4%. The service given here typifies the exceptional performance of these valves throughout the plant.

Today the mill counts its Crane Pulp Valves in use by the hundreds. Sizes range from 4 to 14 inches. Yet never, in the more than 11 years, has any valve required maintenance or repair, much less replacement.

These Crane valves have never caused a shutdown for any reason. They don't clog up as former valves did; nor bind at the disc. They always seat easily, without forcing. Each and every one keeps giving satisfaction.

THE VALVE

Crane No. 1425 non-clogging, bonnet-less Pulp Stock Valves with exclusive combing-and-shearing-action seating design. Knife edge disc shears easily through combed fibers; seats tightly against non-dulling lead stop. Have full flow port area; no pockets where fibers can lodge. Brass trimmed or all-iron; also rubber lined. Wheel-operated or quick-opening patterns. Consult your Crane Catalog or Crane Representative.



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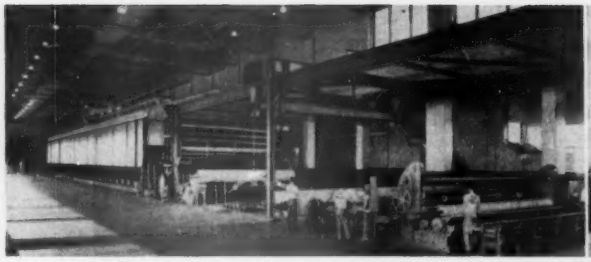
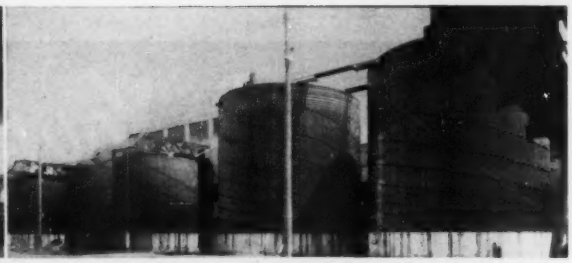


A NEW PICTURE of 284-inch Dominion Engineering Fourdrinier machine, built for potential speed of 2,000 f.p.m., and Dominion winder and Cameron rewinder. Ross Engineering of Canada provided paneled hood and air system. For many Elk Falls views see Sept. issue of PULP & PAPER.



THESE WOOD STAVE TANKS at new modern newsprint mill of Elk Falls Co. at Duncan Bay, B. C., are used for storing of groundwood and sulfite pulp, broke stock and blending stock. B. C. Bridge & Dredging Co. were general contractors and Howard Simons & Associates were designers of mill.

ELK FALLS MILL FORMAL OPENING

The world's newest newsprint mill was formally opened at Duncan Bay, Vancouver Island, September 15, when British Columbia's lieutenant-governor, Hon. Clarence W. Wallace, dedicated the $22,000,000 Elk Falls Co. operation.

Mr. Wallace pressed a button which sounded the mill siren, and more than 500 industrial and political leaders of Canada and the U.S., who had converged at the island center to participate in the function, applauded as a flag was raised and the machines went into motion.

It was in every sense a gala opening, spectacular, well organized and effective, and for all those who attended it was a memorable ceremony.

The newsprint mill, whose construction began in April, 1951, actually went into production last June 10, six months ahead of scheduled time. It has a design capacity of 320 tons of newsprint daily, and eventually it will be enlarged as a part of a $40,000,000 integrated wood utilization enterprise of Elk Falls Co., a partnership of Pacific Mills, Ltd., Canadian affiliate of Crown-Zellerbach Corp., and Canadian Western Lumber Co. (For complete description and pictures see Sept. issue of PULP & PAPER.)

After Mr. Wallace had concluded his part of the ceremony, British Columbia's new Social Credit premier, W. A. C. Bennett, addressed the gathering, emphasizing the recognized importance of the industry to Canada's west coast province. He said Elk Falls Co. was an ideal example of progressive integration since it stood for the scientific and practical alliance of basic forest wealth and advanced processing techniques.

Henry J. Mackin, president of Elk Falls Co. and head of Canadian Western, declared it was a proud day in his long career in the forest industry. As the chief executive for many years of a lumber corporation which operated at Fraser Mills, one of the biggest sawmills in the British Commonwealth, he had long realized the value of co-ordinating production with pulp or paper mills. He felt the amazing expansion of pulp and paper meant perpetual life and greater prosperity for the forest industry as a whole.

Paul E. Cooper, vice president of Elk Falls and president of Pacific Mills, said the Elk Falls undertaking was a logical development and one he felt would go a long way towards stabilizing the forest industry.

R. M. FOWLER (left), Pres. of Canadian Pulp & Paper Assn. and Newsprint Assn. of Canada, was spokesman for visitors at Elk Falls show, and ELLIOTT M. LITTLE (right), Chairman of Executive Board of Canadian Association was top ranking mill executive of that group participating.

Robert J. Filberg, vice president of Elk Falls, and general manager of Comox Logging & Railway Co., logging subsidiary of Canadian Western, told about his company's early experiments in salvage logging and stressed the fact that the Elk Falls mill will depend to a large extent on material previously wasted.

Thomas Hargreaves, mill manager, described some of the interesting features of the mill.

R. M. Fowler, president of the Canadian Pulp and Paper Association and of the Newsprint Association of Canada, was among the distinguished group of eastern Canadian industry executives who attended the Elk Falls show, and he was their spokesman in congratulating Elk Falls Co. and the men responsible for its success. He said that the new mill would be a valued contributor to the world's supply of an essential commodity.

Final speaker was J. D. Zellerbach, president of Crown-Zellerbach Corp., who made the trip from San Francisco to witness what he described as a bright new chapter in the history of the industry.

To accommodate many invited guests, Elk Falls Co. chartered the Canadian Pacific ship Princess Elizabeth, which was pressed into service at the eleventh hour to replace the Princess Kathleen, which had been originally assigned and which had been wrecked in Lynn Canal, Alaska, only a few days previous. About 300 persons made the boat trip from Vancouver during the night preceding the opening day, while more than 200 others went north from Victoria and other Island points and from the western states or flew over from the mainland.

Among those who witnessed the opening were most of the members of the executive board of the Canadian Pulp & Paper Association, which met in Vancouver later in the week, including Elliott M. Little, chairman of the executive board, and head of Anglo-Canadian Pulp & Paper Mills; Douglas W. Ambridge, president of Abitibi Power & Paper Co., and S. L. de Carteret, president of Canadian International Paper Co., as well as executives of many other pulp and paper enterprises. Never before have so many important figures in the Canadian industry gathered in such impressive numbers in the West.

Headbox by Dominion Engineering

We regret to say our report last month on the new Elk Falls machine stated that the headbox was made by Beloit Iron Works. The fact is that the entire machine was made by Dominion Engineering Co., Ltd., including the headbox, although the latter did incorporate features of the pressurized type headbox developed by Dominion in Canada and by Beloit in the U. S. A. which are now becoming widely known in the industry.

Dominion Engineering, leading machine builders in Canada, have been leaders in developing features of newsprint machines which have made Dominion machines the fastest in the world in newsprint. Elsewhere in this issue, we carry an important story obtained by our Canadian editor at Baie Comeau, Que., where a Dominion Engineering machine has attained a speed of 1830 f.p.m. PULP & PAPER in the past carried exclusive reports and pictures of Dominion high speed machines at Powell River and in Newfoundland, exclusive reports from its traveling editors.

Although the headbox at Elk Falls has been widely and frequently described simply as "Beloit-design" and even just a "Beloit headbox," the facts are that this design was originally developed and patented in Canada by Dominion and to which has been added various features developed and patented by Beloit.

IT'S Stebbins SEMPLATE and SEMTILE

. . . for linings and tile tanks in the new mill of the ELK FALLS COMPANY, LTD.

STEBBINS congratulates the management of Elk Falls Company, Ltd. and Howard A. Simons, consulting engineer, on the completion of the modern, new Elk Falls newsprint mill at Duncan Bay, B. C. The Elk Falls mill marks another milestone in the forward progress of British Columbia's pulp and paper industry.

STEBBINS SEMPLATE linings were specified and installed for all stock storage tanks, the stock preparation chests, wire pit and couch pit and for all the flumes throughout the groundwood mill.

STEBBINS SEMTILE construction was specified and installed for the midfeathers in the large stock preparation chests and the vat for the triple-flow Waterous beater.

SEMTILE BUILT Means Longer Life

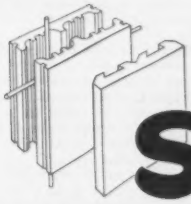
for tile tanks. Semtile construction consists of hollow salt-glaze tiles, cored in two directions to permit both vertical and horizontal reinforcing. When laid and reinforced, the cores are solidly filled with concrete, resulting in a reinforced concrete wall faced on both sides with corrosion-resistant glazed tile.

SEMPLATE LINED Means Longer Life

for all process vessels. All Stebbins linings are installed with full recognition of the chemical and mechanical requirements of the process involved. Stebbins designs, installs and maintains the proper corrosion and acid-resistant lining for every industrial need.

FOR 68 YEARS

Stebbins has been the leader in the design, installation and periodic inspection of tile tanks and corrosion and acid-resistant linings for process vessels.



Stebbins

SEMTILE, SEMPLATE, CARBON and ACID BRICK

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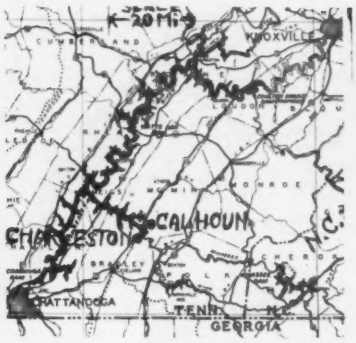
Work Proceeds For New Bowater Mill



Location of Bowater Southern Corp. mill is between Charleston and Calhoun on the Hiwassee River, which flows into the Tennessee River. Extensive water power development, including TVA dams, is indicated by areas under water. Tennessee's headwaters are in Knoxville area and this mighty river flows past Chattanooga into Alabama before swinging north again to join the Ohio. Airline from Chattanooga to Knoxville is 90 miles.

Leveling of the site of the newsprint and kraft pulp mill to be erected by Bowaters Southern Paper Corp. at Calhoun, Tenn., has been completed and the Raymond Concrete Pile Co. is started on its $250,000 contract. Construction on main buildings will not get under way before the end of 1952. Preparatory steps, including spur railroad lines, will lead to rapid progress in 1953. Mill completion is set for 1954.

The mill (130,000 tons of newsprint, 50,000 tons of kraft pulp yearly) will rise in a beautiful setting in famed east Tennessee's flourishing farm and pasture lands, with rough areas well invested with tree cover. The site is on the west side of U.S. Highway 11 where it crosses the Hiwassee River, being on the north bank. Here, the river water is backed up to form an arm of Chicamauga Lake, formed by one of the TVA dams.

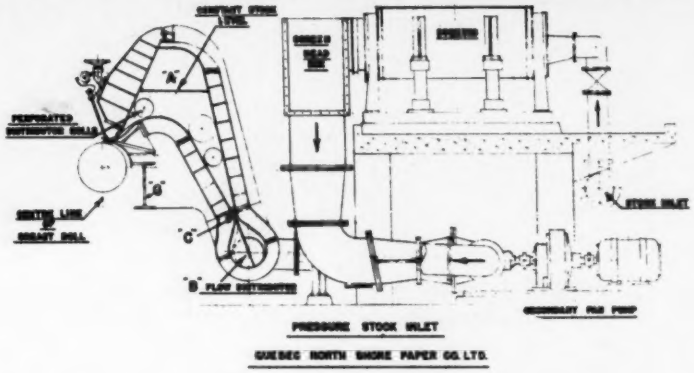
The highway touches Calhoun, Tenn., the 375 population living in quiet tree-lined streets. It comprises a "twin city" with Charleston, population 550, where the telephone exchange is located. The "twin cities" are 12 miles from Cleveland, a bustling town of 18,000, noted in the textile industry, and 42 miles from Chattanooga. The Tennessee State Planning Commission has established a planning authority for the 10-square mile area. The paper company does not plan a "mill" village.

The mill will set back 1000 feet from the highway, will be about 1500 feet long, and will be landscaped. The general area is studded with TVA lakes, providing fishing and recreation.

J. E. Sirrine Co., Greenville, S.C., engineering firm, has opened a field office with J. L. Murph as temporary resident engineer, and Robert Brown as office manager and auditor Bowaters is represented at the site by George R. Koons, industrial relations manager.

ROBERT BROWN (left) is Office Mgr. for J. E. SIRRINE CO., Greenville, S. C., at new Bowater mill site in Tennessee. To right of him is PULP & PAPER traveling editor's snapshot of site looking toward Hiwassee River Bridge.

1,830 F. M. WITH NEW PRESSURE INLET



Since installation of the two 262-inch Fourdrinier paper machines (Dominion Engineering Co.) for Quebec North Shore Paper Co. at Baie Comeau, Que., in 1937, there has been an annual increase in operating speed. One of its machines has operated as high as 1,830 f.p.m., with a monthly average speed of 1775 f.p.m. on standard newsprint.

A contributory factor to this speed and all-round satisfactory service has been the design and installation last year of the new pressure inlet, patterned somewhat along the lines of the headbox built into Powell River Co.'s new No. 8 machine.

During 1949 it was realized at Baie Comeau that an average speed of about 1,700 f.p.m. was about the highest attainable with a conventional headbox, unless major structural changes were to be made in order to build a headbox having a static head over the slice of 17.4 feet, which would give ultimate machine speed of 2,000 f.p.m. It was realized that such a headbox would pose many problems. The pressure-vacuum headbox at Powell River had been watched with interest and in 1949 it was decided to design a pressure headbox for No. 2.

The design was undertaken by Sandwell & Co., of Vancouver, B. C., with assistance of engineering and operating departments of the paper company, under guidance of M. H. Jones, chief engineer Ontario Paper Co., Quebec North Shore parent firm, and with cooperation of Powell River Co.

A cross section view of the inlet is shown in the accompanying illustration. This consists of two inter-connected units, flow box and slice. It will be seen that the stock inlet is completely enclosed, and that the "liquid level" is not varied in relation to machine speed as in the case of a conventional open, or atmospheric inlet. Compressed air, under automatic control, is admitted to the top of the inlet for the purpose of establishing the proper total "head-behind-slice" required for any given machine speed.

The maintenance of a constant and nominal level in flow box "A" provides a generally uniform hydraulic flow behavior, or flow pattern within the inlet, regardless of variations in machine speed.

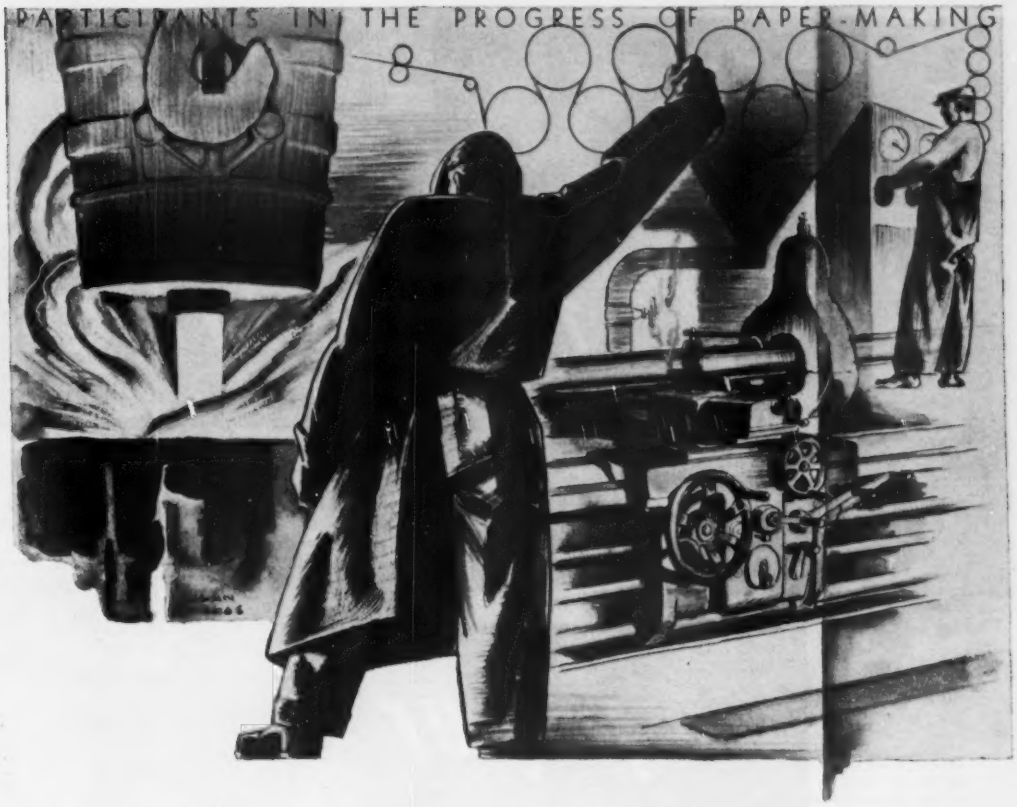
The stock distributor shown at "B" has two supply connections, one at each end. The distributor is equipped with a special flow evener designed to properly regulate the flow of stock through the restricted outlet "C" of the distributor.

Because of this, the stock flows into the inlet instead of being allowed to cascade in from the screens. This eliminates turbulence, air entrainment and foaming. Cross flow currents which cause "snaking" on the wire have been totally eliminated by the arrangement of directional flow eveners in the throat. Rotating perforated rolls are employed for flow dispersal. Two rolls are provided, and these are located as shown in the throat. The third perforated roll is located immediately preceding the slice. From here it flows through cross current rectifier plates immediately preceding the slice lips.

The distributor end of the stock inlet is carried on trunnion mountings and the slice end on the fixed beam "G" equipped with wedges for levelling purposes. The entire structure may be raised, lowered, tilted, advanced or retarded relative to the breast roll, by hand-operated mechanical control.

An integrated pneumatic and electric control system has been provided for the stock inlet process circuit—that is, the respective white water and stock circuits from the wire pit and the stuff box through to the breast roll.

Recording instruments have been provided for all major functions to serve as ready references to process behavior. For fast and convenient operation these instruments are mounted on a centrally located master control panel board, together with associated electric control stations. Some of the electric control stations are interlocked for automatic sequential starting, and for automatic shutdown of the stock inlet circuits in case of a couch motor failure or similar emergency.



Machinery . . . paper-making equipment traditionally combining original design and extremes of size with high speed operation, precision and durability . . . implements a great industry.

Fourdrinier Wires . . . as fabricated by Appleton Wire Works, Inc., reflect the 56 years of experience and devoted research that have *earned* the acknowledgement that *"Appleton Wires are Good Wires!"*

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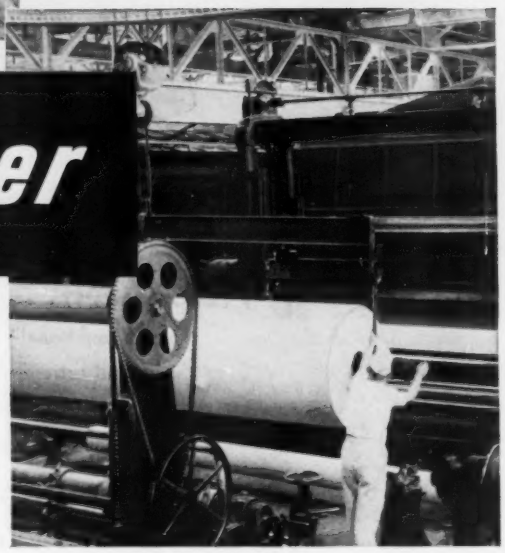
from pulp logs



to paper

CHAIN BELT REX COMPANY®

EQUIPMENT CUTS HANDLING COSTS

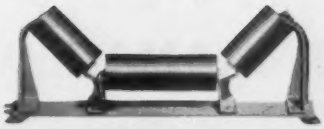
When you select your equipment from the complete Chain Belt Line, you're sure to get equipment which is best suited to your particular applications. If you need chain, you won't be paying for unnecessary chain strength, nor will you be penalized by premature chain failures. You'll get the one that is best for your mill. If you're interested in belt idlers, bucket elevators, spray nozzles or a complete conveying system, you have a similar wide range of selection.

The illustrations on these pages give you some idea of the wide variety of choice that Chain Belt offers you. Your Rex Field Sales Engineer is specially trained to help you in your selection. Call him today, or for complete information write for Bulletin 52-51. Chain Belt Company, 4691 W. Greenfield Ave., Milwaukee 1, Wis.

REX

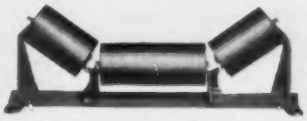
BALDWIN-REX®

REX® COMBINATION DUROBAR® CHAIN has inside block links of malleable iron or Rex Z-Metal, and side bars of high carbon steel. These husky chains are great favorites for all types of conveyor service in pulp and paper mills. Eccentric barrel construction makes for better sprocket action and greatly reduces chain wear.



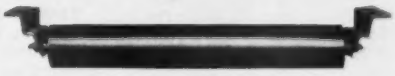
REX WOOD CHIP IDLERS are sloped to a steep 45° angle to greatly increase belt capacity. Chips can be piled higher and loaded closer to the belt edge without fear of spillage. Have same long-life design features as Rex standard idlers.

REX CHABELCO® STEEL CHAIN combines relatively light weight with high strength. It is used in both drive and conveyor service . . . can handle heavy loads and withstand severe shock and vibration. For those really tough jobs, you can't beat Rex Chabelco.



REX STANDARD TROUGHING IDLERS are used for wood chip, bark and pulp handling. Roller or ball bearing equipped interchangeable rolls are supported in brackets of unbreakable malleable iron. Triple labyrinth grease seal keeps grease in . . . dirt out.

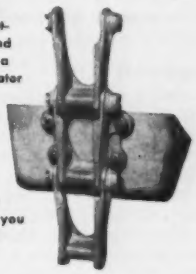
BALDWIN-REX® ROLLER CHAIN is a high strength precision steel chain suitable for high speed drive service. It is available in single, double, triple and quadruple strand in a complete range of sizes and strengths to suit every driving requirement. Pitch range is from ¼" to 2½".



REX RETURN IDLERS are of the dead shaft type and are of the same rugged construction as Rex Troughing Idlers. Positive grease seal assures smooth operation through years of continuous service. Rex also makes flat belt idlers, impact idlers, self-aligning idlers and spiral return idlers.

REX FLAT SPRAY NOZZLES are ideal for cleaning logs as they emerge from woodyard or log pond. Their hard-hitting, knife-like sprays of water effectively remove sand, gravel, dirt and grit from logs. Special design permits maximum impact value with low water consumption.

REX BUCKET ELEVATORS are widely used for elevating wood chips, refuse and similar material. There is a Rex Standard Bucket Elevator to meet virtually every requirement of the pulp and paper industry. All major components . . . buckets, chains, sprockets, housing, etc. . . . are manufactured by Chain Belt Co., assuring you a uniform, reliable, easy to maintain unit.



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Distributors in all principal cities in the United States and abroad

Recovery at Charleston

GOOD MANAGEMENT IS KEY TO EFFICIENCY

GENERAL VIEW showing expanse of working area and neatness of WEST VIRGINIA PULP & PAPER'S CHARLESTON, S. C., Kraft Recovery Plant. Glassed-in control room is at left, Babcock & Wilcox furnaces at right.

"The primary purpose of our recovery plant is to recover chemicals; but in doing this it is also our business to burn liquor efficiently so as to make maximum steam production. So our job is not just to recover chemicals—but to recover chemicals AND GENERATE STEAM." In this way, C. B. Rhoads, chemical superintendent at West Virginia Pulp & Paper Co.'s, Charleston, S.C., kraft plant, expounds his company's theory of recovery plant functions.

West Virginia lays no claim to having the best chemical recovery, or steam generation at its Charleston plant. It has nothing in the way of special "gadgets" or equipment. But this Charleston plant gets a lot out of its equipment.

In addition to a better-than-average recovery of chemicals the recovery plant produces about 47% of the total steam requirements of the mill. This points up the importance of getting full efficiency and steam generation from the recovery system. The recovery of chemicals from the entire pulp mill system is between 88 and 90%.

The management and operation of the entire recovery system is under recovery plant supervision. There is no divided responsibility between the recovery plant and the power plant. The recovery plant has its own firemen and boiler tenders, and they are part of the team to recover maximum amounts of chemicals and generate maximum amounts of steam.

Recovery Equipment

Before examining details of operation, let's see what West Virginia has at its Charleston plant in the way of equipment. The black liquor is first received by a 6-body Goslin-Birmingham quintuple effect evaporator with a capacity of 550 pulp tons, and a similar capacity 7-body Swenson sextuple effect evaporator. The Goslin-Birmingham is equipped with a barometric condenser, and the Swenson with a surface condenser. All bodies have 16-gauge No. 304 stainless tubes. The original tubes in the quintuple effect bodies were 18½ feet long. These were increased in one step to 20 feet, and then in another step to 26, so that all bodies now have 26-foot tubes. The liquor is concentrated here to 50% solids.

From evaporators, the concentrated black liquor goes through D. J. Murray single-wheel cascade evaporators, where it leaves the cascades at 60% solids. Gases from the cascades go through one Koppers and one Research Corp. precipitator where 90% of entrained chemicals are collected. Rated capacity of the Koppers precipitator is 95,000 cfm and the Research precipitator, 190,000 cfm. Entrance gas temperatures is 300° F.

There are four recovery furnaces now in use at Charleston, with three older units either left as standbys, or held for dismantling. The four in use are all Babcock & Wilcox units using the Tomlinson method for combustion, with capacities as follows:

No. 4. unit, installed in 1937, fires 360,000 lbs. solids per day, producing 950,000 lbs. steam.

No. 5 unit, installed in 1941, fires 600,000 lbs. solids per day, producing 2,200,000 lbs. steam.

Nos. 6 and 7 units, installed in 1949 and 1950, firing 750,000 lbs. solids per day each, and producing 2,500,000 lbs. steam.

No. 5 was the first large two-drum unit made by B&W, and improvements to this unit as well as other design features have been incorporated in No. 6 and 7, built in 1949 and 1950, respectively.

With exception of the No. 5 furnace, all furnaces are equipped exclusively with Diamond soot blowers, sequentially operated, and blowing saturated steam. No. 5 has one of the few real innovations in the recovery system through installation of a Broman shot-cleaning system, a Swedish development observed by Mr. Rhoads and installed in 1951. In this system steel shot is spread over the economizer and, in flowing down over the economizer tubes by gravity, cleans them. The dust is separated, and the shot recirculated. The system, the only one in service in the country, is automatic, and Mr. Rhoads says it has effected a saving in steam and manpower through its replacement of 20 soot blowers formerly used to clean this horizontal tube economizer.

For design purposes, on Nos. 6 and 7 are the latest standard B&W design with gas flowing in order over superheater, two boiler passes, vertical tube economizer and tubular air heater. The black liquor, concentrated to 60% solids, is sprayed on the side and rear walls of the furnace through an oscillating spray nozzle located in the front wall. An area-type black liquor flow meter is used to measure flow of black liquor to the nozzles.

Operating the System

It is in the operation and handling of manpower that recovery effectiveness is achieved. The foreman holds overall responsibility for the proper functioning of his shift. The water tender must see that boilers are adequately supplied with water, with periodic hand blowdowns, and that boilers are brought up on the line properly when fired with oil before beginning black liquor burning. It is the duty of the fireman to see that his boiler is properly fed with liquor; that airports are kept open through close observance of instruments; and to make necessary adjustments to see that liquor firing is properly maintained.

The head lancer maintains a continuous inspection of the furnaces and the work of the individual lancers, while the port man rods out primary and secondary airports on all units.

"The recovery system is as good as your cleaning practices," say West Virginia men. And this is the key to the successful functioning at Charleston. To get maximum recovery and steam production, gas passages must be clean. And West Virginia's efforts along this line have led to development of a system of what might be called "preventive cleaning."

The automatic sequentially-operated Diamond soot blowers are the first part of this system. Blowing steam instead of compressed air, the soot blowers operate every six hours on the modern No. 6 and 7 units. Then, to obtain optimum cleanliness whether they seem to need it or not, these units are hand lanced every other day. By such preventive cleaning it is pos-

Sulphur

Thousands of tons mined daily, but where does it all go?

LOOK AROUND YOU and let your glance fall on any object. The chances are 1000 to 1 that sulphur played an important role in its manufacture, either as a component part of the finished product or as a processing element.

Take, for example, the very magazine you are reading. If it's average size it weighs about 1 pound. Made largely of sulphite pulp it required about 0.1 pounds of sulphur in its manufacture.

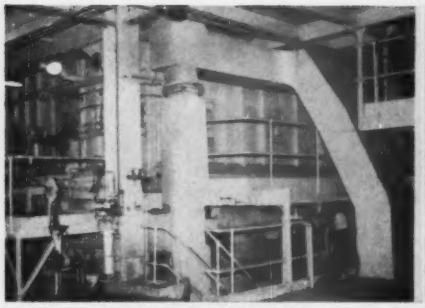
Multiply this 0.1 pounds of sulphur by the thousands of magazines turned out every day and you'll get some idea of the tremendous tonnage of sulphur required for this *single* division of industry . . . the sulphite pulp manufacture.

Sulphur has long been called One of the Four Pillars of Industry. Today's need emphasizes this fact more than ever. Sulphur producers are making every effort to get maximum production from existing mines and to develop new sources of sulphur as quickly as possible.

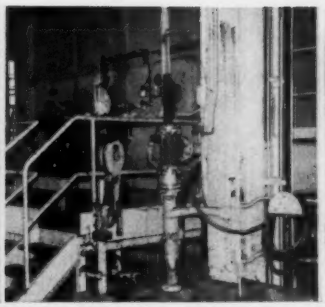
Texas Gulf Sulphur Co.

75 East 45th Street, New York 17, N. Y.

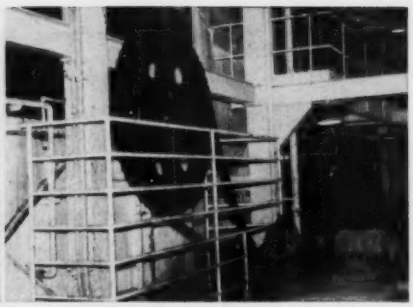
Mines: Newgulf and Moss Bluff, Texas



IN CHARLESTON RECOVERY PLANT, this is front and side view of Babcock & Wilcox No. 5 Unit. This is first large two-drum unit by B & W and air ducts at side were later additions to improve burning efficiency.



CHARLESTON MILL'S No. 7 Babcock & Wilcox Recovery Unit, which is improved model employing features not included in previous installations. Instruments are Fischer-Porter units for measuring black liquor flow to the burners.



WEST VIRGINIA, Charleston Mill uses D. J. Murray Mfg. Co. single-wheel cascade evaporators behind the boilers. This is side view of No. 7 unit, showing Allis-Chalmers motor drive with Falk reduction gear.

sible always to keep ahead of plugging in the gas passages, thus maintaining the full efficiency of the furnace at all times.

It is significant that reduction of hand lancing necessary in the newer West Virginia furnaces is a result, also, of the progress made in boiler design and soot blower application, since installation of the older units.

General Observations

There are other contributing factors to the success of the Charleston system. One could be said to be the incentive for perfection inspired by good working conditions. There is adequate working space in front of furnaces, and it is possible to keep this clean by frequent hosing down. Instrument boards for each furnace are housed in separate glassed-in, rooms with forced air circulation.

Ability to watch effectiveness of the recovery operation has been made possible by introduction of a chart board which dramatically shows results of the recovery team's efforts. The board pictures the recovery of chemicals made by the plant, and the pounds of steam generated by each unit. This can be an inspiration to better effort in itself.

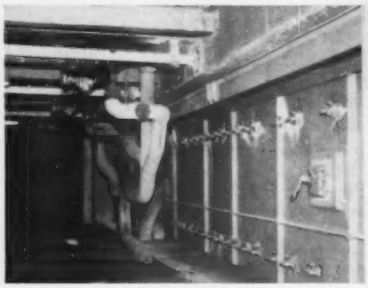
Summary

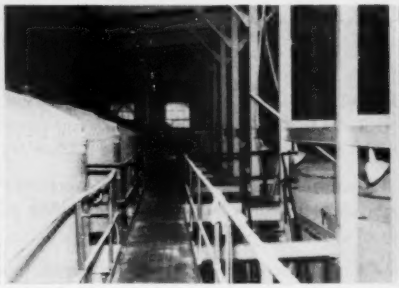
These are the things, then, that characterize the Charleston plant: (1) Good modern equipment; (2) All recovery system operation under recovery system personnel—particularly firemen and water tenders which frequently are under power plant supervision; (3) "Preventive cleaning" of gas passages keeps ahead of plugging, and helps keep furnaces at full efficiency; and (4) Alert, intelligent supervision welds a working force that feels and acts as a team performing an important job.

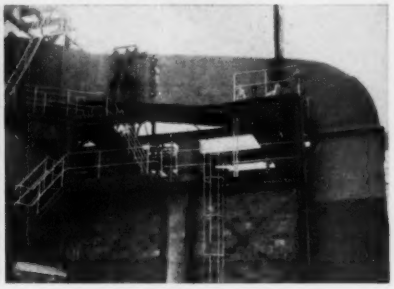
"THE RECOVERY UNIT IS AS GOOD AS YOUR CLEANING PRACTICES," say West Virginia men. Here are Diamond soot blowers, which are sequentialy-operated, blowing steam, and ports for hand lancing. Steam cleaning is done every 6 hours—hand lancing every other day.

TOP FLOOR OF EVAPORATOR BUILDING showing Goslin-Birmingham 6-body quintuple effect evaporator at left, and 7-body sextuple effect Swenson evaporator at right. Original tubes were 18½ feet long. These were increased to 20 feet, then to 26 feet. Entire series is now equipped with 16-gauge No. 304 stainless tubes, 2 in. by 26 ft.

TOP OF WEST VIRGINIA'S RECOVERY UNIT showing Koppers Company Electrostatic's precipitators and duct leading to the stack. A total of 90% of ash rising from cascade evaporators is collected here, with the precipitator handling 95,000 cubic feet per minute.







Guatemala Grass Mill Closes; Thom Returns

Mitchell Thom, former Canadian mill superintendent who spent the past five years directing construction, expansion and operation of paperboard mills in Mexico City and in Guatemala, has returned to his old home in Victoria, B.C. (address, Box 723).

He will remain there, pending decision as to his future plans, as he intends to remain in the paperboard production field. For several years he was manager and directed operation of the paperboard division of United Shoe & Leather Co., Mexico City, where mill output was doubled under his direction. He helped build and was manager of the unusual mill at Los Cerritos, Guatemala, which made 80 or 90 tons a month of good .009 and .035 board with lemon grass residue after oil extraction.

Alvin H. Johnson & Co. were consulting engineers for this million dollar mill, whose equipment includes 6 rotary digesters, washers, screens, a 6-cylinder machine, and Combustion Engineering boiler plant.

The mill is now shut down, presumably temporarily, the explanation being that its markets were largely in the U.S. Although it is the only paper mill between middle Mexico and Columbia, it had not developed markets in its region while the U.S. demand had been so strong. It is now hoped by the owner, Minor Keilhauer, who owns other industries, that it may be able to start up again with local markets. Mr. Thom resigned after completion of his two-year contract.

Straw Mill Closes

Another strawboard mill—the Vincennes, Ind., plant of Fort Wayne Corrugated Paper Co., has shut down. The development of kraft and semi-chemical pulp for corrugating was cited as the reason. Some straw operations have closed because of distance and difficulty in getting straw.

Am. Cyanamid Promotion

Alden R. Loosli has been named assistant to the general manager to take effect about Jan. 1, according to S. C. Moody, vice president and director of the American Cyanamid Co. and general manager of Calco Chemical Division. Mr. Loosli, native of Marysville, Idaho, attended the Universities of Idaho and Chicago. He came to Calco in 1937.

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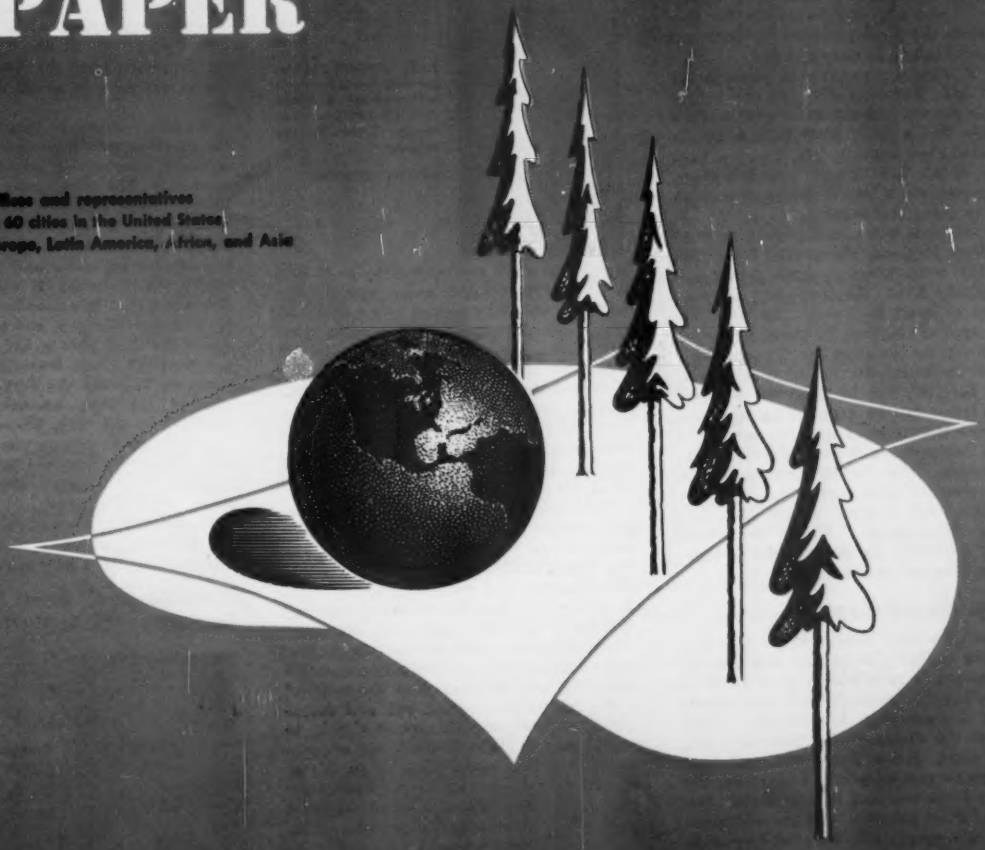
Europe, Latin America, Africa, and Asia



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MACHINE TENDER Munchausen Stories

We are pleased to present again a "repeater" and his story—winner for this month in the Machinetender Munchausen stories of mixed fantasy and fact.

F. P. Hughes, paper mill chemist for KVP Ltd., Espanola, Ont., is the author of this story which might be entitled "It's a Yolk, Not a Joke, Sir!" To use an old Broadway expression, Mr. Hughes certainly didn't "lay an egg" with this story, as we consider it one of the most raucous ever to grace this column.

Mr. Hughes came to Espanola eventually from England. He worked from 1948 to 1951 with Messrs. Reed & Co., of Aylesford, Kent, England—biggest producers of kraft in Europe, he says. He did a spot of research for them, a facet of which can be found in the "Proceedings" of the Technical Section of the BP and BMA for 1951 Vol. 32. They were happy years there, but he explains his wife and self took tickets to Canada in search of a job, a home and a more adequate nutrition intake, achieving all three in Espanola, a pleasant little town.

Here is Mr. Hughes' second Machinetender Munchausen story, for which PULP & PAPER has sent him the customary honorarium of five dollars:

Another SNAFU Mill Story

Have you ever stood on the top of a machine house? The mighty machines of this century require buildings as grand as themselves. To stand there in the breeze, to see the acres of slate or felt stretch away in the distance—ah! there is a majestic sight. Notre Dame Catheral may have more gargoyles and fiddly bits, the Empire State Building may be higher, but none of them compare with the utilitarian might of a machine house roof. I remember standing on the parapet of one great machine house of the SNAFU Paper Co., or rather of their subsidiary in England, in a little village where etiquette still demands that young ladies ride the bicycle side-saddle, watching the lovely countryside, the farms, the distant town, the winding river, and over all, the shadow of the mill and the great smokestack, with its wisp of white smoke. A gale was springing up, for it was near the equinoxes, and it turned that night into a real "Strength Tenner." It tore off many a roof, uprooted trees, and caused great havoc throughout the land. I went home that night, thankful to be safe and snug in the old houseboat in that storm, not on the perilous land, belike to be hit on the head with a chimney pot or a branch of a tree.

Next morning I went into work as usual, and was soon immersed in a plan for extraction of dirt from stock by adding a pinch of something to the pulp in the potcher, which would cause all the rust,

F. P. HUGHES, of Espanola, Ontario—who whipped up a fancy dish for this Machinetender Munchausen column.

scale coal dust and shives to segregate into a narrow band along one deckle, where it would be wound into a stub roll and burnt. I had all details worked out thoroughly, excepting the "something" which for the moment eluded me. I had of course first tried alum in all concentrations, and I was going on to try things like coal oil, when the paper mill superintendent came in with a puzzled look on his face, and, as usual, a complaint in his hand. He gave it to me, and I read this:

"In your last shipment of Disintegrating Towelling, we were surprised to find a poached egg in the middle of roll No. 117. We regret to inform you that this was not even flagged, and we are enclosing a bill to cover the cleaning of our slitter and winder. If you will inform our Managing Director where to get similar tasty eggs—say a dozen a week—of similar quantity, he would be willing to overlook the matter."

We immediately went out and cross-questioned the machine crew closely to see if any of them had lost an egg recently, but they merely looked on this as an ordinary sample of the strange insanity which seems to hang over all technical staff, when they enter the machine room.

There the matter would have rested, in the limbo of those machine-room mysteries that never seem to be cleared up—like whose wrench went through the presses, or how a few hundred pounds of wet strength got in the newsprint broke—but the next day brought a very similar letter from another customer. All lunches were inspected that day, and those with eggs of any sort in their lunch-pails were required to eat them under supervision. Many and ingenious were the theories to account for the passage of an egg through the screens from the beater room (whence, the machine room men were unanimous, the trouble started), but next day yet another complaint of the same nature came in.

The management began to get worried, and put the technical staff at the reel of No. 1 machine in shifts to watch for eggs coming through.

A party of students happened to be going through the mill, and one of them bawled to his guide: "What is that man doing?"

"Looking for eggs," shouted the guide back. The student made a note of it.

I was watching the reel that morning and at precisely 10:01 I saw an egg, in the center of the sheet, sail into the reel. I flagged it, and ran down the dry end to question the machineman. Neither he nor his apprentice nor his mate had their lunchpail open, and he strenuously denied having seen the egg sail down the wire. Further watch was kept all next day, and again at precisely 10:01 a poached egg sailed down the sheet and into the reel. Strict watch had been kept on the wire from an hour before, and there was no sign of anything untoward there.

We made a note to take off the hood of the machine next Sunday washup, but the mystery was solved before that became necessary. The tiler, going the rounds of the buildings repairing the gale damage, came across a haystack which had been lifted bodily by the storm up into one of the hood ventilators, and with the haystack had travelled a chicken. Nature demanded that this poor fowl lay one egg at 10 a.m. every day, and that had fallen down the shaft onto a felt, and from the felt onto the sheet, travelling in the hot, damp air between the dryer rolls until it reached the reel, becoming thoroughly poached on the way. There was no calcium containing grit up there on the roof, of course, so the egg was soft-shelled, and we found no eggshell marking on the sheet.

The owner of the hen formed a queue 150 yards long and three deep outside the time office at 8 the next morning.

"Middle Age" Sport Fans Remember R. L. Murray

Recognize former U.S. Tennis Champ? This is R. L. MURRAY, now President of Hooker Electrochemical Co.

Not many modern day sports fans may know that R. Lindley Murray, now president of Hooker Electrochemical Co., and widely regarded as an outstanding industrial executive of America, once beat Bill Tilden for the U.S. national tennis championship, and that was the second year in a row that Mr. Murray won the crown.

A Stanford graduate, he was champion in 1917 and 1918, the era of Red McLaughlin, Norris Williams and Billy Johnston and a younster just coming along was William T. Tilden. Mr. Murray beat the youngster in the first national final in which the latter ever appeared, but he went on later to win seven titles, more than any other individual.

Mr. Murray, who formerly headed research in Hooker, went to the Pacific Coast last month for his first trip there since the directors met in 1950 at the Tacoma, Wash., plant.

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B & S Slitters and Rewinders are doing outstanding jobs in mills and converting plants all over the country. Their many unique money-saving advantages make them the first choice of the industry. Before you buy, *compare*...and your choice, too, will be B & S Slitting and Rewinding equipment.

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Personals

MIDWEST NOTES

WILLIAM S. WOODWARD, has been made resident manager and *LOUIS J. WILHORN*, general superintendent, of Henepin Paper Co., Little Falls, Minn. Their titles had been mill mgr. and supt.

COL. J. F. SENSENBRENNER has been elected a director of Kimberly-Clark Corp., succeeding the late F. J. Sensenbrenner, former president and chairman of the company (for commentary, page 3, Sept. issue). Col. Sensenbrenner had also previously been a director, as well as vice president of sales, up to 1942 when he resigned to accept an army commission.

J. LESLIE SENSENBRENNER, assistant secretary treasurer of K-C and former manager of its Niagara Falls, N.Y., mill, succeeded his late father as a director of the Neenah (Wis.) First National Bank.

N. H. BERGSTROM, Bergstrom Paper; *D. K. BROWN*, Neenah Paper, and *JOHN KIMBERLY*, *ERNST MAHLER*, *COLA G. PARKER* and *CHARLES SAGE* of K-C were also elected directors of the Neenah bank.

W. R. KELLETT, Kimberly-Clark vice president, lost his Class A boat championship in the annual Inland Lakes Association regatta on Lake Winnebago, but finished third with his "Last Chance" and *BOB KIMBERLY* was fourth in "Eskimo," in a field of 15. There were 137 boats in all divisions.

PETER TALBOT, as we reported some months ago, was considering moving to Chicago headquarters of Williams-Gray Co., representatives of Lindsay wires, Knox felts, etc., but he has reconsidered and is going to remain in his old home at Kalamazoo. *PAUL M. FOSTER*, Chicago, is president of Williams-Gray.

WALTER H. SWANSON, vice president of Kimberly-Clark Corp., who lives in Menasha, Wis., has been appointed a national council member-at-large of the Boy Scouts of America. He is in his third term as president of the Fox River Valley Scouts council.

STEWART JONES, publications editor, Champion Paper & Fibre, Hamilton, O., was married this past summer.

RAY FIELDS has been named beater foreman at Lockland, O., and *NORMAN OHLER*, staff assistant in finance dept., Middletown, by Gardner Board & Carton. Born in Kentucky, Mr. Field formerly managed company cafeterias. Mr. Ohler was born in Ohio, attended U. of Cincinnati.

E. R. SUTHERLAND, general purchasing agent; *DOROTHY DE JOGEN* and *STANSBURY YOUNG*, assistant purchasing agents, and their staff were tributed in a recent Thilmany Pulp & Paper Co. *Thilco News*. It said they buy about a million dollars worth of materials each month.

F. B. WHITING, late president of Whiting Paper and chairman of Whiting-Plover, will his $100,000 stone boathouse to the city of Neenah. Many clubs are expected to use it for meetings.

GEORGE McGUIRE, who formerly was on machines and in finishing in Badger-Globe mill, has been appointed building services superintendent, main office, Kimberly-Clark, succeeding *M. G. HOYMAN*, retired.

WILBUR RUDOLF has been transferred from staff engineering, Kimberly-Clark, Neenah, to the research engineering section.

LORAN D. PRATT JR., promoted to tax accountant, treasury dept., Gardner Board & Carton Co., Middletown, O., was born in that city. He served as a lieutenant j.g. in the Navy in World War II.

JOHN B. TRIMBLE has been promoted to paper machine superintendent and *JOSEPH E. BLASHOCK* to tour foreman of The Crystal Tissue Co., Middletown, O. Mr. Trimble is responsible for operation of the four paper machines and is over tour foremen. He has been with Crystal 30 years and started as machine tender in the old paper mill.

Two of his sons work full time at Crystal, Bob Trimble in finishing and Jack Trimble as stationary engineer. The youngest Trimble son, John, still in school, and works in converting during vacations. Mr. Blashock was born in Johnsonburg, Pa., and started working in paper mills when he was 17. In 1928, he came to Middletown and Crystal and has been with the company 24 years. He started as a machine tender. One of his sons, Larry, works in converting.

THOMAS J. DEE, vice president and director of Hoberg Paper Mills died in his Evanston, Ill. home June 18 after a lingering illness. He was chairman of the board of the National Foil Co., Elizabeth, N.J.

CHARLES A. SOUTHWICK, JR. of H. P. Smith Paper Co., Chicago, manufacturers of flexible barrier materials, has been named as technical director in charge of Research and Development.

DOUG MORRISSEY, editor of Thilco News, magazine of Thilmany Pulp & Paper Co., was elected a director of the Wisconsin Editors Association.

E. J. WARD, vice president in charge of sales, Cameron Machine Co., Brooklyn, N.Y. is to be guest speaker at the September 18 meeting of Michigan Supts. Division in Kalamazoo.

TOUR SUPERINTENDENTS appointed at International Falls mill of Minnesota & Ontario Paper Co. are *HERBERT (BERT) CROTTY*, *WILFRED (SHORTY BEACH* and *FRED EMLAW*.

MARTIN VAN ROY, of Kimberly, Wis. Mill of Kimberly-Clark Corp. has retired as calender tour foreman due to ill health.

R. W. REED, is the new technical director of Rhinelander Paper Co. (picture last issue). He received his BS from the Univ. of Rochester in 1937 and took advanced training at the Institute of Paper Chemistry, receiving a PhD in 1941, Mr. Reed was in the paper service department of Eastman-Kodak Co. acting as technical advisor to paper mills, and from 1946-1948 was paper consultant to the Ozalid Division of General Aniline and Film.

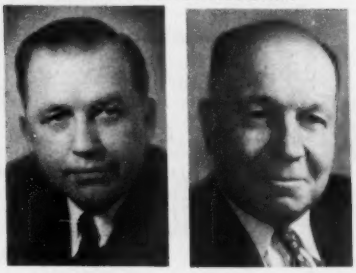
OHIO BOXBOARD CO., Rittman, O. names four new directors: C. B. McDonald, McDonald and Co., Cleveland; Francis H. Beam, National City Bank of Cleveland; Dudley W. Maxon, of Wise, Roetzel, Maxon, Kelly & Andress, Akron, O.; and M. E. Barthen, administrative vice president of Ohio Boxboard Co.

ABBOTT GLICK, manager of industrial sales, C. Reiss Coal Co., Sheboygan, Wis., has retired. He was graduated from the Univ. of Wisconsin.

HARRY E. CROUCH has been named junior maintenance engineer at the Middletown, O. plants of Gardner Board and Carton Co. He is a native of Columbia, Mo. and a graduate of Iowa State College.

JACK H. NEWMAN, 59, vice president of Midland Paper Co. died in Chicago recently.

A MARATHON CONSOLIDATION



RUSSELL C. FLOM (left), for five years Mgr. of Sales Promotion, has been appointed Director of Sales for Pulp, Paper and Paperboard for Marathon Corp., headquarters in Menasha, Wis. While all these sales are thus consolidated in one section, RALPH FANNON (right) continues as Manager of Pulp Sales. Mr. Fannon headquarters in Rothschild, Wis., also headquarters for Pres. John Stevens, Jr. Mr. Flom has been with Marathon 27 years. Marathon expansion in recent years has made it possible for this company to supply pulp, paper and board, and its Canadian bleached kraft pulp, particularly, to other mills. This is the background for Mr. Flom's new position.

IN INDUSTRY NEWS

ROWLAND L. HALL (left), posed for this picture by PULP & PAPER a few weeks ago. Better late than never—since his not so recent appointment as Purchasing Manager of American Box Board Co., Grand Rapids 2, Mich. Graduate of Dartmouth, he started working part time for American Box Board in 1932. He was a Lieut. Colonel of Marines in the South Pacific war theater. Became Asst. Purchasing Agent of the board firm in 1947 and Expediter in 1950. J. H. BRINKER (right), appointed Assistant Executive in charge of Distribution at A. O. Smith Corp., Milwaukee, makers of rimmed steel and other types of digesters. A U. of Rochester graduate of 1936, he got Master's at Harvard. He will coordinate all matters related to distribution of products. He has been Gen. Sales Mgr. for the Southwest Dist., Houston, Tex.

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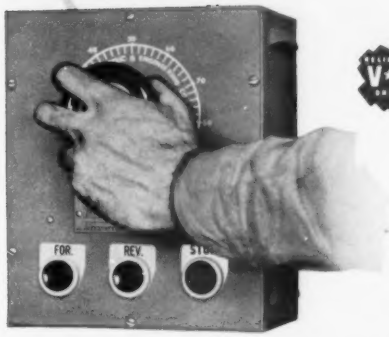
unlimited speed changes over a wide range permit selection of the right speed for machine, material and operator to secure maximum production.

inching, jogging or creeping through adjustable slow speeds; your operator can slow down a machine for inspection, then accelerate quickly and *exactly* to previous working speed.



convenient-to-operate controls grouped and located where your operator can quickly, easily and safely control all functions of his machine. Operator fatigue is reduced—there is less production lag over the course of a shift—scrap losses are held to a minimum.

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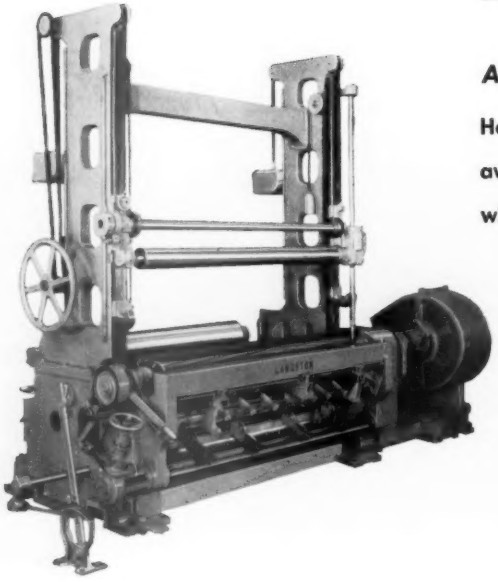
Automatic hydraulically operated Roll Ejectors are available for Type "BA", "CA" and "DA" Langston Slitters and Winders or Rewinders.

Hydraulic Roll Drops can be provided to safely lower heavy rolls to floor level or onto roll dollies or trucks.



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Heavy Duty Mill Type Langston winders are available with 11", 14" and 18" diameter winding drums and in widths up to 198".

Langston

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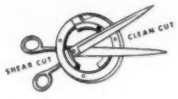
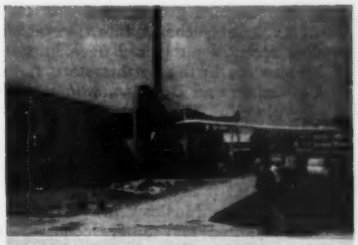
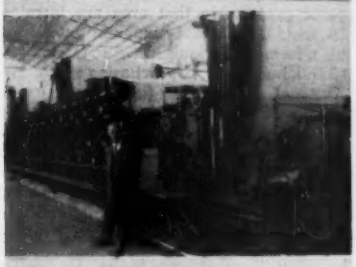


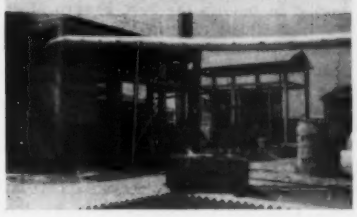
SAMUEL M. LANGSTON COMPANY • Camden, N. J.

C. GARCIA ROBLES (left), who has had a part in engineering and construction of some new mills in Mexico. He has opened new offices at Avenue Insurgentes 411-3, Mexico City (11), where he represents Alaska Pine & Cellulose woodpulps; Nichols Engineering; A. E. Broughton & Co.; H. Waterbury & Sons; Cabble wires & Poirer Control.

MANUEL DEL CASTILLO JR. (right), became the exclusive representative in Mexico last year for Black-Clawson Co., Hamilton, Ohio, and its affiliates, Shartle Bros. and Dilts Machine. His offices are at 1-La Catolica 45, Edificio Abed, Mexico City (1).

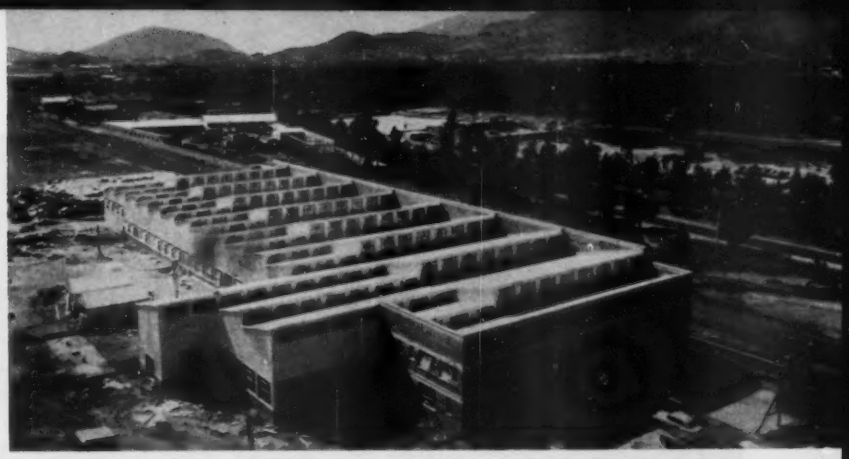






KRAFT S.A.—a new mill and new company in Mexico:
Top—General view. Boiler house and stack in rear center. Sprout Waldron shredder for waste paper is off at right and overhead conveyor pipe leads to Pulper and pulper stock chest to the left.
Middle—The 101 in. Rice Barton Fourdrinier Machine. Guido Pasqualucci stands in front of machine—he is also in top picture.
Below—Closer view of Pulper and Pulper Stock Chest at left and Boiler house in Back.

PHOTOGRAPHS ON THIS PAGE AND NEXT WERE PROVIDED FOR PULP & PAPER by Sr. Garcia Robles (picture at top of column).



GENERAL VIEW OF SONOCO DE MEXICO, S. A., at Santa Clara, ten miles from Mexico City. This paperboard mill and cone and tube plant is a new subsidiary of Sonoco Products Co.,

OPERATIONS IN MEXICO

Mexico has a long history in papermaking—maybe even longer than the Chinese and Egyptians for the Aztecs and Mayans, especially the latter, could have been making paper first, beating it out of cooked or coaked mulberry and fig tree fibers. And the first European style mill was not in Pennsylvania, as so many believe, but at Culhuacan, Mexico, in 1575.

Much of the following report on Mexico is based on actual travel by a PULP & PAPER editor and also very extensively to assistance from two Mexico City engineers and equipment men. They are Carlos Garcia Robles, who participated in building several new mills, and who represents a number of equipment and market pulp companies; and Manuel del Castillo, Jr., who is exclusive representative in Mexico for the Black-Clawson, Shartle, Dilts companies. Many others sent information.

There are some interesting background facts in the Mexican industry picture. Spaniards and Germans, immigrant families, have led in building the industry, but the native and proud Mexican has himself moved forward in technical and engineering skills. The Socialist—Indian style Socialist, not European—has created the "ejidios" whereby entire villages own and profit collectively from producing forests. The government is actively pushing programs to re-forest and develop use of various species. It has embargoed foreign paper and kraft, particularly, at times, to help develop its new industries. There have been mistakes and inefficiencies, but it is overcoming these. However, the private industry has still led in most advances.

Around the first of the year a new subsidiary of Sonoco Products Co., of Hartsville, South Carolina, U.S.A., Sonoco de Mexico, started up at Santa Clara, 10 miles from Mexico City. Using waste paper, it makes 20 tons of board on a rebuilt Shartle cylinder machine 88 in. wide with 4 cylinders. It utilizes 20% to make its cones and tubes and sells the rest. Its other major new units include two Dilts Hydrapulpers and Hydrafuge, two 1,000 gpm Goulds pumps, Moore & White slitter and winder and Combustion Engineering steam generator. DeZurik regulators feed Monarch jordans. Joel de Ferry is general manager.

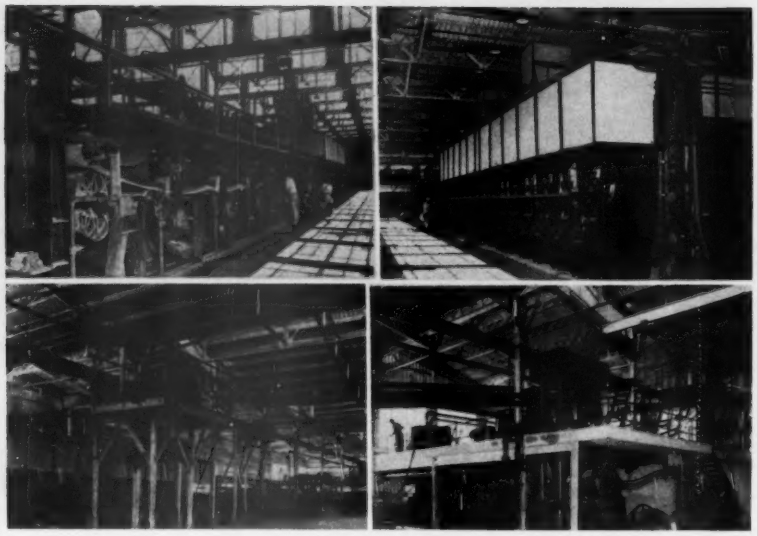
Another entirely new mill in the Mexico City area is Kraft, S. A., which started up around May 1 at Guadalupe Hidalgo suburb, with 20 tons kraft paper capacity, using waste kraft and kraft pulp. Main units are a Sprout-Waldron shredder for waste paper; a 90 hp. pulper; thickener; Dilts Hydrafiner; E. D. Jones finishing jordan; Bird screen; reconditioned 101 in. Rice-Barton Fourdrinier machine; Moore & White calender stack reel and Moore & White slitter and winder.

Andres Dabdoub is president of the new company, Cirilo Ezquer is vice president; Gustavo Trevino, manager, and Guido Pasqualucci, technical advisor and also a director.

Starting up as this issue went to press was Productora de Papel S. A., 12 miles out of Monterrey, were Gregorio and Lorenzo Garza, brothers. These brothers have long been established in the lumber business, their company Madereria Nuevo Leon, S. A., of Monterrey, and this paper mill is a longheld dream now realized. PULP & PAPER visited the completed fine building and saw some of the machinery installed. The entire mill was laid out by Sandy Hill (U.S.A.). A 90-in. Sandy Hill Fourdrinier machine, V-Belt Sandy Hill selective drive; E. D. Jones jordans, and direct-connected Westinghouse turbine are in the equipment.

The first hardboard and softboard plant in Mexico, Fibracel S. S., in Valles, San Luis Potosi, started up this spring. Semitropical and hardwoods are used. American Defibrator of New York engineered the plant and its equipment, also Link-Belt conveyors, two Bird Jonsson screens, Karstad refiners, Valley Iron Works thickeners, Warren Pumps, Sandy Hill Fourdrinier machine, Baldwin press, and Svenskaflaktfabriken heat chamber are main units. Carlos Ziegler is general manager (complete story June 1952, PULP & PAPER).

"La Aurora" Paper Mill where Carlos



FOUR VIEWS OF NEW MACHINE ROOM of one of newest Mexican paper mills: Sonoco de Mexico S. A., subsidiary of Sonoco Products Co., Hartsville, S. C. It started up 20 tons a day board mill at Santa Cruz, near Mexico City, and converts some to tubes, cones, etc. Upper left is WET END and upper right is DRY END of rebuilt Shartle Brothers four-cylinder machine. Lower left shows Murray Turbine structural steel tower, and at lower right—Shartle Bros. Stock Preparation, including Hydrapulpers (2), Hydrafiner and two 1,000 gpm Goulds Pumps, DeZurik regulators feeding two Monarch Jordans.

Kinkel is general manager, has purchased a new 106 in. Fourdrinier machine to be delivered by Escher-Wyss in Germany for production of ten tons per day of fine light papers. Aurora is really an integrated operation carrying through from its pulp and paper mill to its big school supplies and stationary store. Its mill, however, will move from the heart of Mexico City out to San Bartolo Naucalpan, where the new machine and old machines go into new buildings.

Another new mill, Cartonajes Estrella, S.A., at Atzcapotzalco suburb of Mexico City on the verge of starting a second hand five cylinder board machine with an expected production of 40 tons a day. They have installed a Combustion Engineering 600 HP high pressure boiler in combination with a 550 KW turbo generator. Garcia Robles firm did the consulting and Joseph E. Cotter is the manager.

Papelera "Iruna" S. A., is another company expanding—having added an 81 in. Fourdrinier in addition to two existing machines.

Cartonera Moderna, S. A., another paper mill which moved from center of the capital to new quarters in the outskirts, has bought a second hand Shartle Brothers 6 cylinder 60 in. machine to increase its production by 40 tons a day of board.

Empaque de Carton Titan, owned by a big beer brewery in Monterrey (next to Budweiser, the biggest in America), which also has a steel plant, bottle cap plant, etc., has bought another new machine—a 6 cylinder, 90 in. machine from Sandy Hill, with Shartle Brothers stock preparation to make 60 tons a day of liner board for corrugating. This company has been using wild reeds to make pulp and has carried on an extensive research program in bamboo.

El Fenix Paper Co., with two mills in Mexico, one a new mill just a few years ago, headed by Ricardo Gomez, has been expanding. One is board and one a fine paper mill. In its fine paper mill, a Harland sectional electric drive from Britain has been installed on the 90 in. Fourdrinier, and also a Ross (U.S.) hood and felt drying system. Emerson jordans, Voith inlet, Nichols Vortraps system, have been installed. Also a Shartle Hydrapulper, ragger and junk remover and an Eck-Haubold supercalder.

The Coyoacan Paper Mill, in the old town of Coyoacan, south of the capital, headed by Tomas Mier, has replaced an old drive on its No. 3—124 in. machine with a new Reliance Electric & Engineering sectional drive from Cleveland, U.S.A. A new Combustion Engineering power plant is being completed.

But now Coyoacan is now entering a new field. It has formed Fabrica de Celulosa "El Pilar" S. A., a new mill to make 28 tons of bleached cane bagasse pulp daily and has ordered the equipment and Pomilio process from Cellulose Development Corp of England. It will be first of its kind in Mexico and should be in production in late 1953. For fine papers Coyoacan will mix the bagasse pulp with imported sulfite. Coyoacan is one of the three or four biggest companies in Mexico.

Up in the northeastern-most state of Mexico, across from the U.S.A., a cellulose plant has started operations at Rio Bravo, in the cotton area of Matemoros, near Reynoso, in Tamaulipas State. It uses cotton linters and is expected to substantially supply the rayon-acetate needs in Mexico, a government minister said. A small amount of its pulp is being sold for paper.

A pilot plant sponsored by Aaron Saenz, president of the Sugar Producers Association, is making pulp for boxboard from cane bagasse in Xicontencatl, also in Tamaulipas State. Another pilot plant headed by Jose A. and Oscar Chabrand, is testing long fibers of the banada tree for pulp.

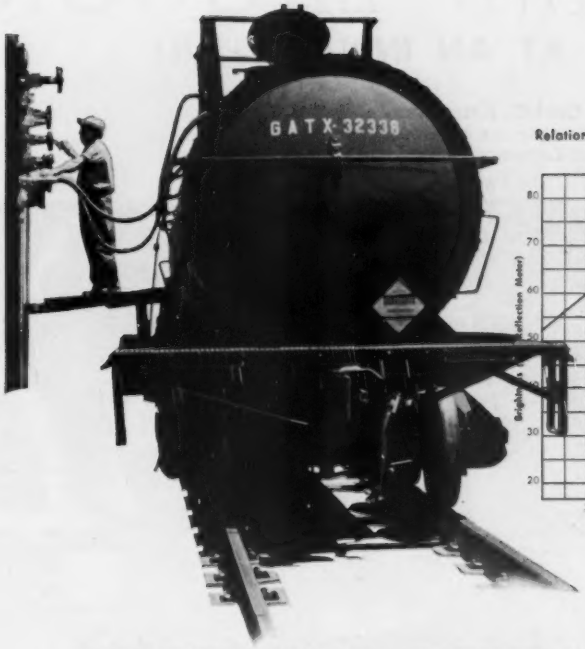
An important hydro-electric project under way in the Papaloapam River basin in the state of Vera Cruz, may bring many projects, including a bagasse pulp mill. This is Mexico's "Tennessee Valley Authority" and a government minister said the government itself would build newsprint and aluminum plants. Still there is no newsprint made in Mexico, imports of over 60,000 tons a year coming from Canada. Main reason is low profit return and bitter experiences of manufacturers with political pressures of publishers and political leaders of the past. Woodpulp imports for rayon and paper are mostly from Sweden, about 25,000 tons last year compared with 18,000 from the U.S.A., 9,000 from Finland, over 1,000 from Canada, lesser driblets from Norway, Italy, Australia and even Portugal's one and only sulfite mill. Home-produced pulp, on the march, is reached about two-thirds kraft, less than a third groundwood and only about 8,000 unbleached sulfite (see table).

Most recently publicized developments in Mexico are in the northwestern states of Chihuahua and Durango, where wood is very plentiful. The American engineering firm of George F. Hardy Co. some years ago decided, however, there wasn't sufficient water in Chihuahua for a particular project it investigated.

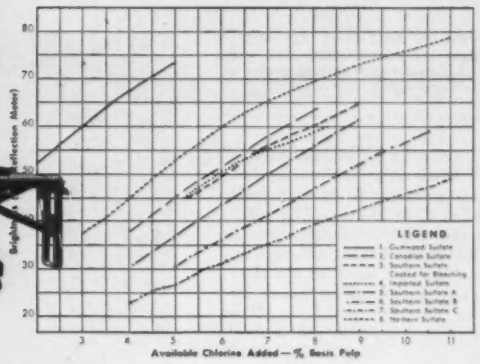
However, the Mexican interests have been undaunted and other locales and other projects in that area are looming. In fact, Cellulosa Chihuahua S. A. has been formed. Enrique Ames, P. O. Box 530, Chihuahua, Mex., is purchasing agent. The Nacional Financiera (government) has pleged 50% of $15,000,000 capitalization for a cellulose or dissolving pulp mill at Temosachic, Chihuahua. Snia Viscosa Corp., of Milan, Italy, also with a New York office, is putting up 25%, according to reports, and will build the mill and buy all equipment. Several Mexican bankers are directors of the company and are expected to put up the rest. Franco Marinotti, president of Snia Viscosa, said his firm would supply technical men. It is for this mill, the government banned Chihuahua timber exports.

In late May, only a month or so after the Chihuahua deal was announced, the Chamber of the Mexican Paper Industry announced Snia Viscosa has agreed to put up 25% for another project, an $11,500,000 newsprint mill in Durango State, and that the Mexican government would put up 50%, the rest to come from Mexican capitalists. According to a British report, technical men had thought the heavy pines of this area were not suitable for newsprint.

Finally, Mario Gonzalez Muzquis, manager of a 30 million bd. ft. a year lumber company, Aserraderos Gonzalez Ugarte, of Chihuahua City, told PULP & PAPER his firm plans a pulp mill to integrate its operations. They have been a going concern for 40 years. The economy of this kind of a venture has proved itself many times before.



Relation of Brightness to Available Chlorine Added in Single Stage Hypochlorite Bleaching of Several Sulphate Pulps



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Bulletin No.

201 Process and Equipment for Making Bleach Liquor for Use Without Settling

211 Chemistry of Bleaching Chemical Wood Pulps

214 What Do We Know About Bleaching?

236 Importance of pH and Catalysts in Bleaching Operations

242 Production and Use of Unsettled Bleach Liquor

243 Procedures and Brightness Grades in Bleaching Sulfate Pulps

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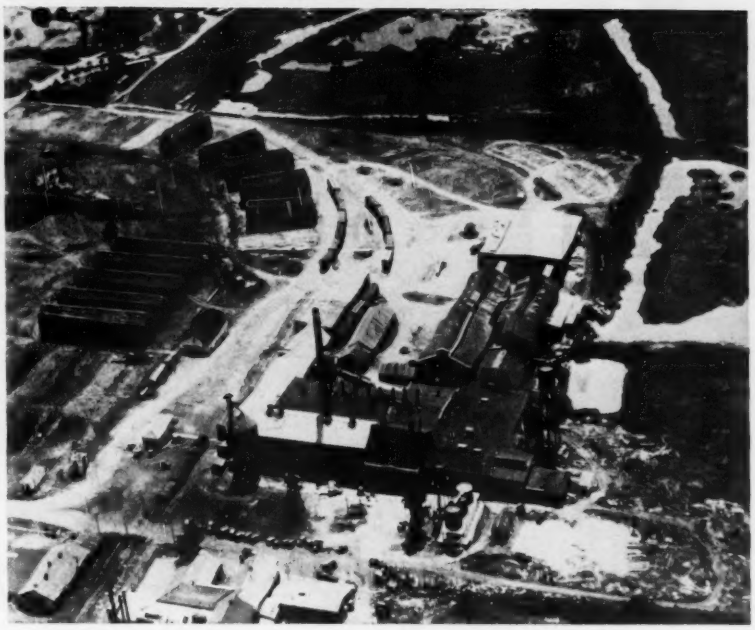
STRAWBOARD LAGOONS

CASE HISTORY AT AN INDIANA MILL

By Carl G. Krancher
General Manager and Sales Manager,
The Ball Brothers Company, Noblesville, Indiana



A GENERAL VIEW OF BALL BROS. CO. Mill at Noblesville, near Indianapolis. The plant produces wheat straw pulp and 90 tons a day of .009 board for corrugating.

Ed. Note: Lagoons at the Strawboard mill of Ball Bros. Co., Noblesville, Ind., have been in operation in various forms over a period of 40 to 50 years. The mill is virtually in the center of Indiana and in the broad Ohio River Valley, although actually about 100 miles north of the river, and just a half hour's drive above Indianapolis up the White River (West Fork). This river flows into the Wabash and then the Ohio. Edmund F. Ball is president; Duncan Menzies, executive vice president of the paper company.

The lagooning system at Noblesville has been very effective in the treatment of its mill waste. This waste is the result of cooking 120 tons per day of wheat straw into pulp and washing and processing this into 90 tons of finished paper for corrugated boxes. The washing out of the spent cooking liquor, chemicals, grit and lignin in the straw creates this waste.

Water for this processing is taken from the White River, on which the mill is situated, and into which this discarded process water must empty.

The lagoons are five in number, irregular in shape and shown in an accompanying picture. They consist of two abandoned gravel pits and three plots of natural land that have been formed into lagoons by dikes around their perimeter. The lagoons take up an area of 147 acres and vary in depth from 5 to 25 feet forming ponds having a capacity of approximately 47 million cubic feet. They are bounded on one side by the mill or mill yard and on two sides by the White River into which they empty.

The mill effluent flows in a trough over a rectangular weir into No. 1 Lagoon and is measured by a liquid level recorder. Samples of the effluent are taken hourly and the composite sample analyzed daily for suspended and dissolved solids.

The flow of the effluent is through Lagoons 1, 2, 3, and 5, and thence over a weir into the White River. Lagoon No. 4, because of the topography of the land, is being used at the present time just for emergency storage.

Retention time of the waste will vary with the volume of waste within the lagoons and the amount flowing in and out of the lagoons and will range from 5 to 60 days. The longer the waste is retained the greater the effectiveness of the lagooning system.

Operation of the Lagoons

Under a recent agreement, the state's stream pollution board allows the Ball Brothers Co. to flow waste into the White River in a fixed dilution ratio of 1:350. That means for every 350 parts of river water flowing at a point above the mill one part of waste by volume can be spilled into the river below.

The flow of the river is measured by a standard USGS gauging station situated above the mill in the center of the city of Noblesville on the West bank of the White River. This station is equipped with a unique piece of apparatus called a Telemark. The Telemark transmits by telephone through the local telephone exchange a signal indicating to the caller the river level at that instant. A chart drawn up by the USGS from a calibration of the river bed at that point will convert river levels to river flows in cubic feet per second.

The outflow of the mill waste from the lagoons averaging about 2.0 CFS is measured over a combination triangular and rectangular weir equipped with a recording liquid level gauge. Waste from the last of the lagoons, No. 5, is controlled by one 24-inch size and one 8-inch size gate valve set 8 feet below the top of the dikes and operated from valve house directly above.

The control feature of the system is as follows: The Telemark station is called hourly throughout the day. Based on the river gauge reading which is recorded on a log sheet, the lagoon operator opens or closes the gate valves so that the flow of waste over the weir corresponds to the allowable dilution ratio of 1:350. So that a continual adjustment of the valves is not necessary, a graph showing a period of four days, enables the operator to observe the trend of the river flow—either upward or downward— and to set the valves so that the allowable flow is not exceeded.

For the convenience of the operator, a table has been prepared showing what the weir reading in inches should be for each river gauge reading in feet.

Laboratory Checks

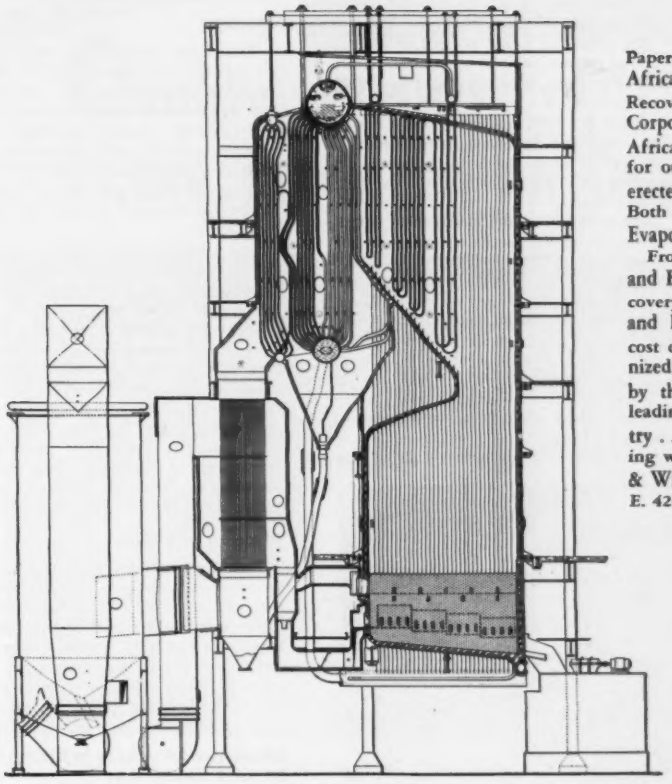
In addition to volume control a comparison is made daily of the color of the river above the mill with the color of the river several miles below the point where the waste is added. A maximum of 2.0 PPM of color added is permissible when operating on a 1:350 dilution ratio. The color test checks the dilution ratio in the event either the level recorded on the weir or the river flow gauge should become inaccurate or inoperative. The color readings are made by comparison with platinum-cobalt standard color solutions in Nessler tubes. In most cases it is necessary to first centrifuge the water samples

# of B&W Recovery Units

REPUTATION GOES A LONG WAY

...to South Africa

The SPRINGBOK, national emblem of South Africa.



200-Ton B&W Recovery Unit with B&W Cyclone Evaporator for Outdoor Installation in Zululand.

Paper Industries, Ltd. of Springs, South Africa, have been operating a 75-ton B&W Recovery Unit for several years. Union Corporation, Ltd. of Zululand, South Africa, have ordered a 200-ton B&W Unit for outdoor installation; it is now being erected. This represents a repeat order. Both units will have B&W Cyclone Evaporators.

From Oregon to Florida, to Zululand and Finland, the reputation of B&W Recovery Units for highly efficient chemical and heat recovery, reliability, and low-cost operation and maintenance, is recognized. It is a reputation firmly established by the performance of B&W Units in leading mills throughout the paper industry . . . a reputation that is rapidly reaching world-wide proportions. The Babcock & Wilcox Company, Boiler Division, 161 E. 42nd Street, New York 17, N. Y.

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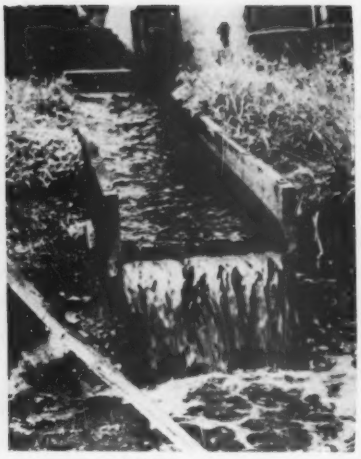
P-771



MILL EFFLUENT AT BALL BROS. MILL flowing in a trough over rectangular weir into No. 1 Lagoon. Anaerobic action with evolution of gas is indicated.

to remove turbidity.

Attention is also directed to the color of the effluent as this has an important bearing on the appearance of the stream. No effective means has been devised for coping with this problem of color reduction other than by expensive chemical means. Lagooning has little effect in the reduction of color.

Further checks are made several times during each month of the bio-chemical oxygen demand (b.o.d.) of the lagoon effluent and also the dissolved oxygen (d.o.) content of the river both above and below the mill. The purpose of this check is to determine if the addition of waste will deplete the oxygen content of the river to the point endangering fish life. Normally there is no danger during the fall, winter, and spring periods when river flow is high and the water cold at which time the d.o. will be 10-12 PPM. However, during the hot dry summer months when river flow is low and water warmer the d.o. will drop to 6-7 PPM. The danger point for sustaining fish life in rivers similar in character to the White River has been suggested by authorities as 3.0 PPM.

Measuring Efficiency of the Lagoons

The most important measure of the efficiency of lagoons is the reduction in b.o.d. from the period the mill effluent enters the lagoons until it leaves for the river. The two factors which exercise the most influence on this reduction are the time spent in the lagoons and the temperature of the waste. The longer the time and the higher the temperature the greater will be the reduction in b.o.d. Fortunately the temperature within the lagoons is higher during the summer months when greater reductions in b.o.d. are required to compensate for lower d.o. in the river.

The dissolved solids or organic material in mill effluent determine its b.o.d. content. Therefore, it is important to observe and to hold to a minimum this material which is set free in the cooking of straw. The lower the dissolved solids content of the mill effluent the greater chance the lagoons have of discharging a low b.o.d. content waste.

The next important measure of the efficiency of lagoons is the reduction in suspended solids. These solids consist of fiber, grit, and calcium carbonate sludge formed in the cooking process. The fiber will settle out and decompose if given ample time. If it is discharged into the river with the waste, it will contribute to a high b.o.d. and a reduction of d.o. in the stream. The grit and sludge usually settle out quickly and very little trace of them is found in the final effluent.

Determinations of total solids, suspended solids, dissolved solids, as well as the other factors previously discussed are the measure of efficiency of the lagoons as also of the processing within the mill.

OUTFLOW OF WASTE FROM LAGOONS is measured over this combination triangular and rectangular weir equipped with recording liquid evel gauge. Mr. Krancher, Gen. Mgr. of the mill and author of this article, is man at right.

Storage

Lagooning has a tremendous advantage in that it provides storage for mill waste in times of low river flow which during hot dry summer months often reaches a low of 50 cfs. At such time only .14 cfs of effluent could be spilled into the river and the difference between that figure and the average 2 0 cfs of mill effluent would have to be stored until periods of high river flow.

The lagoons at Noblesville have a capacity of about 47,000,000 cubic feet which, with normal 300-day operation of the mill per year, would allow storage without spillage for at least 11 months. Although there are extended dry periods when river flows are not normal, such storage would allow operation until periods of high precipitation increased river flows above normal. Mean flow of the river is 700 cfs. During flood stages the river reaches maximum flows of 30,000 cfs. These figures are based on studies of precipitation and river flow data of the USGS back to 1935.

Disposal of Sludge

The accumulation of sludge over the years poses a problem. It has to be dredged out occasionally but it is found in quantity only in the first two lagoons. Approximately 5 tons/day of suspended solids are deposited daily in the lagoons.

From 200 to 300 tons were given away last summer in an effort to interest the farmers and the greenhouses in its use.

SUMMARY OF WASTE WATER DATA AT BALL BROS. MILL

I. MILL EFFLUENT

A. Measurement of flow by level recorder on rectangular weir. Samples taken at intervals throughout day.

B. Average values for year through September
1. Flow–1,327,000 gal/day = 921 GPM = 2.06 C.F.S.
2. Suspended Solids–9.45#/1000 gal = 12,581#/day.
3. Dissolved Solids–34.1#/1000 gal = 45,287#/day.
4. Paper Fiber (Maximum) 69.6% of suspended solids, or 8,750#/day.
5. B.O.D.–1050 ppm–Range 1200-900 ppm.

AIR VIEW SHOWING five lagoons and their relationship in location to Ball Bros. Mill, at right, and White River, at top.

Specialty Papers Co.

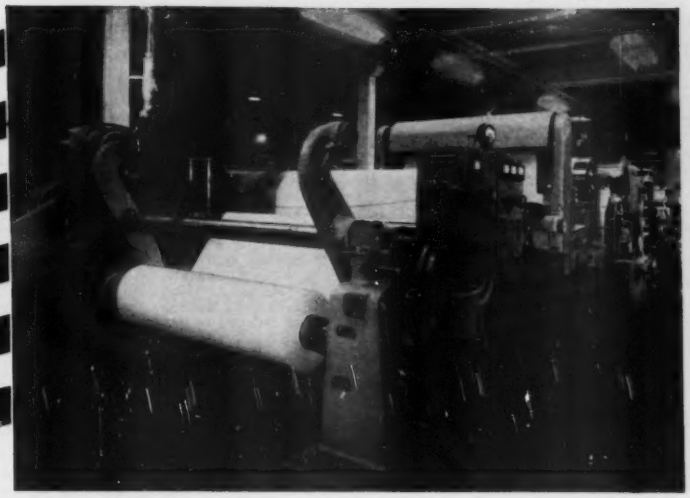
Western Waxed Paper Co.

Hollingsworth & Whitney Co.

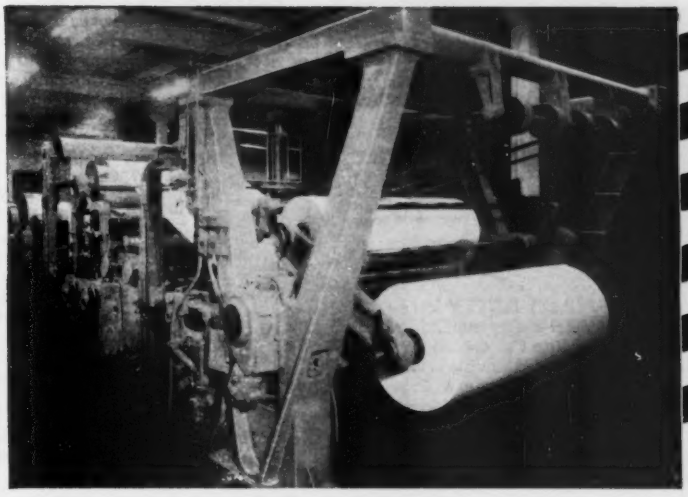
Rhinelander Paper Co.

Individual Drinking Cup Co., Inc.

General Foods Corp.



Quality products are produced on Dilts waxers



Minerva Wax Paper Co.

Zimmer Paper Products, Inc.

Nekoosa-Edwards Paper Co.

Pacific Waxed Paper Co.

Hamilton Manufacturing Co., Inc.

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Subsidiary: B-C INTERNATIONAL LTD., Greener House, 66/68 Haymarket, London, S. W. 1, England

II. WASTE WATER DISPOSAL
A. Lagoons
1. Capacity—46,576,000 cu. ft.
2. Storage capacity—approximately 11 months at normal mill operation.
3. Area 147 acres
4. Handles only mill waste shown above.
B. Other
1. Washroom sewage to village disposal plant.
2. Clean fresh water (drinking water, cooling water, etc.) direct to river.

III. REGULATION OF LAGOON EFFLUENT
A. Measurement of White River at U.S.G.S. gauge station.
B. Measurement of lagoon effluent by weir and level recorder to maintain 350:1 dilution ratio.
C. Color increase not to exceed 15-20 ppm.

IV. LAGOON EFFLUENT
A. Average values April through September.
1. Flow—587,000 gal/day = 408 GPM = .91 CFS.
2. Suspended solids—trace.
3. Total solids—3535 ppm = 29.5#/1000 gal.
4. Volatile solids—2046 ppm = 17.1#/1000 gal.
5. pH—7.9
6. Color—6-7000 ppm.
7. B.O.D.—330 ppm, a reduction of 68.5%, range 100-550 ppm.

V. TRIAL USES OF WASTE LIQUOR AND SETTLED SLUDGE
A. Digester liquor as binder for road treatment.
B. Sale of lagoon sludge for fertilizer.
C. Application of lagoon sludge to cornfield on mill farm.

IN THIS VALVE HOUSE are gate valves which control release of waste from last of the five lagoons at Noblesville. Lagoon operator opens or closes valves to control allowable dilution ratio of waste.

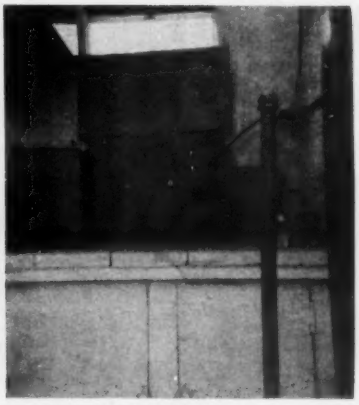
The Telemark Also Tips off Indianapolis on Floods

The unusual "talking" electronic gauge, known as the telemark, described in this article, is also a boon to communities on Indiana's White River for its assistance in forecasting floods.

Ball Bros. Paper Mill cooperated with the Weather Bureau, Geological Survey and Indianapolis Water Co. in installing the gadget. It always replies when a water resources checker picks up a phone in Indianapolis, rings a private number assigned to the gauge, which automatically lifts the receiver at the other end and through a series of bells and buzzing signals, reports the exact height of the river at the Logan St. Bridge in Noblesville.

Human observers no longer are necessary to report the river's behavior.

THIS IS TELEMARK—the "talking" gauge that tells all. Lagoon operator gets word automatically from here on river's height at Logan St. Bridge.



PACIFIC COAST NOTES

JAMES COOPER, chemist, who was with one of the oil companies; *GORDON GRAHAM*, forester, who was with Simpson Logging; *PAUL MIDDLEBROOK*, assistant to the purchasing agent; *MATHER L. WALTRIP*, office assistant on new construction, and *STELLA CLARK*, receptionist, are new faces seen at West Tacoma Newsprint Co., West Tacoma, Wash. Directly and indirectly, staff expansion is due to the addition of the new Pusey & Jones 149 in. Fourdrinier machine, assembly of which starts in December. *NEIL ROBERTSON* is mill manager and early this year *BILL EDWARDS* returned as superintendent after a year's retirement.

WEST TACOMA'S PAUL MIDDLEBROOK (above) is no relation to *PAUL MIDDLEBROOK*, who is in industrial relations of Crown Zellerbach Corp., San Francisco. West Tacoma's *P.M.* is assistant to *MYLNE KEENA*, who is purchasing agent at the newsprint mill.

SVEN ANDERSON has been appointed accountant for the Soleduck (logging) division of Fibreboard Products Inc., Port Angeles. He is married and has four children.

EINAR D. (PAT) REITEN has been appointed general safety supervisor for all Simpson Logging Co. operations, including the Fiberboard division in Shelton, Wash., and Everett Pulp & Paper division in Everett. He was former safety chief for the Washington state department of labor and industries.

LENNART LUNDBERG, associated with his father, Halvar, in their chemical engineering consulting firm in Seattle, was married Sept. 6 in San Francisco to Miss Florence Bensen of that city.

ARTHUR F. ARMSTRONG has been named personnel manager for Scott operations in the Far West, with offices at the Soundview Pulp Division, Everett. He will oversee personnel matters at Anacortes and Coos Bay, also. For the past year he was staff manager of employment and personnel development at Oconto Falls, Wis., and before that, personnel manager at Chester. A graduate of U. of Toronto, he has been with Scott since 1936 except for three years in the Canadian Navy.

IN PACIFIC COAST NEWS

HILTON LYSONS (left), appointed Special Development Engineer and Field Rep. for Berger Engineering Co., according to Pres. Ferdinand Schmitz, Jr. Mr. Lysons was for several years with Pacific Car & Foundry Co. Berger makes air tongs, cranes, loaders, yarders and other wood handling equipment.

B. DOUGLAS BALTHIS JR. (right), in charge of Southern Div., 1671 East Colorado St., Pasadena, Calif., for Heat & Control Inc., recently appointed west coast representatives for Askania Regulator Co. and Bloom Engineering Co. Heat & Control main offices are in San Francisco. Mr. Balthis attended Stanford, was army pilot in Italy.

Moul Catches Big Salmon

Arthur F. Moul, executive vice president of Samuel C. Rogers & Co., Buffalo, N.Y., manufacturers of knife grinders, landed one 41 lb. and one 25 lb. chinook salmon while fishing the mouth of the Columbia during recent Pacific Coast tour.

Arch Mease of DuPont Moves to Los Angeles

Arch Mease, who heads up Pacific Coast sales of the Dyes ad Chemicals and Rubber Chemicals Divisions for DuPont Company, including sales to pulp and paper mills, has moved his headquarters from San Francisco to 845 East 60th St., Los Angeles.

Penjerdel Supts. Meet

The annual fall meeting of the Pennsylvania, New Jersey and Delaware Division of the Superintendents Assn. was held at Galen Hall, Wernersville, Pa., Sept. 26 and 27. Papers delivered included: "Waste Paper Stock Cleaning and Refining," J. J. Verwayen, Gibralter Corrugating Co.; "Cylinder Machine Operation," O. P. Fussell, Lowe Paper Co.; "Trends in Board Specifications for Folding Cartons," Joseph J. Schwenkler, Container Corp. of America; and "Superintendents Non-Mechanical Aids," A. H. Haug, Scott Paper Co. Elmer Mitchell, The Glassine Paper Co., presided.

P. J. FROST has affiliated with Oregon Pulp & Paper Co., Salem, Ore. as assistant sulfite superintendent, according to announcement by *NILS G. TEREN*, president and general manager. Formerly chemical engineer of New York and Pennsylvania Co., Johnsonburg, Pa., Mr. Frost will assume his duties in mid-October.

M. C. KAPHINGST, pulp mill superintendent of Columbia River Paper Mills, Vancouver, Wash., recently took on a hardware business as "an extracurricular activity," purchasing an established store in Oregon City, Ore. which is now doing business as "Kap's Hardware."

America's Finest Family Circle

The family circle formed by *Appleton Machine Company Products* has the well-earned title of "America's Finest." Since 1883, *Appleton Machines* have given superior service to the pulp and paper industry everywhere. Write today for complete information on *Appleton Machine Company Products.*

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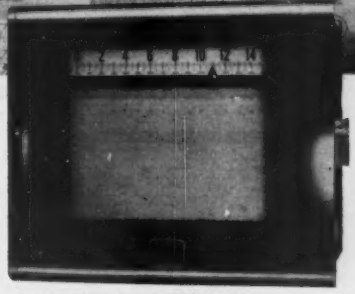

The instrument makers whose advertisements appear above know that their reputations depend upon the accuracy and reliability of their recorders. They select each component part with scrupulous care.

As the recording unit in their instruments, they all selected Bristol's Dynamaster. When you choose the Dynamaster for your own measuring needs you are assured of the same accurate, precise instrumentation demanded by these instrument makers.

THERE'S A DYNAMASTER FOR EVERY NEED

Available as a bridge or potentiometer, with strip or circular charts, Dynamasters can measure any variable that can be converted into changes in d-c voltage, d-c current, resistance, or capacitance.

Dynamasters are providing accurate, trouble-free measurement and automatic control of such quantities as temperature, pressure, pH, speed, voltage, power, current, smoke density, strain, and resistance.

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FOR MORE INFORMATION *on the uses of this versatile recorder, use the coupon to get Catalog No. P1245.*

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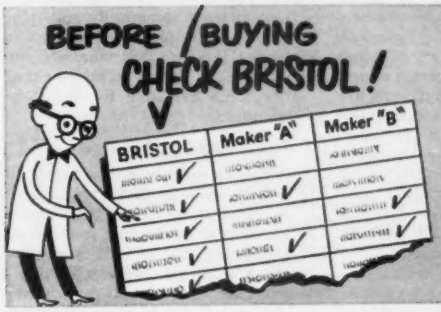

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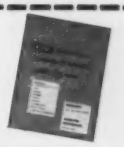

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WAXED PAPER USAGE CLIMBS IN 75th YEAR

By C. L. Dilling, Manager

San Leandro Plant (Calif.)
Western Waxed Paper Div.
Crown Zellerbach Corp.

C. L. DILLING, Manager of San Leandro, Calif., Western Waxed Paper Co. Plant, who wrote this article.

As the pulp and paper industry acknowledges the 75th anniversary of the discovery of waxed paper by Thomas A. Edison, some idea of the magnitude of this phase of the industry can be gained from statistics released by the U. S. Department of Commerce.

Because Edison simply noted his being granted a patent for paraffined paper and then characteristically turned his inventive interests elsewhere, it appears that the possibilities for using waxed paper lay nearly dormant for about thirty years. Then the baking industry took hold of the product. Today, bakers account for nearly one third of all waxed paper—printed and plain—consumed by industry and individuals.

Latest figures shown by the Department of Commerce credit the baking industry with using $57 million. Over $47 million of this is printed paper. The balance is plain waxed wrapping paper.

In the same period, household waxed paper valued at $26.5 million was consumed. Better than $43 million value in waxed papers found markets in locker plant outlets, cereal wraps, delicatessens and other widely varied fields.

To trace the long route from Edison's crude hand-tubbed, single-waxed sheet through the many stages of improved production and improved product—even improved "wax"—is not essential. But along with crediting Edison with the original idea for waxed paper, the industry should be reminded that far-sighted users of waxed paper stimulated a chain of inventions, improved machines, better papers, chemical research, specialized inks and printing methods that are responsible for additional millions of dollars in business and wages in the paper industry.

It has been said that it is impossible to name any single business or phase of everyday living that can count waxed paper completely out of the picture. With additional uses constantly being developed, this may well continue to be the case.

For example, in comparing the dollar volume of waxed paper and wax laminated paper for two recent years, Department of Commerce figures show that volume increased nearly 15% dollar-wise. Yet a conservative estimate indicates that only about 11% of the dollar-value increase was attributable to labor and raw material cost increases. This means that at least 4% of the increase represents new use and new markets for waxed paper products. On this basis, a steady increase in an already sizeable industry seems assured, despite the competition of plastic materials in many markets.

Bearing in mind that this material only concerns itself with waxed paper and wax laminated papers and does not take into consideration such special converter items as cups, plates, drinking straws, dairy product containers, the fact that most recent available figures show $156.5 million volume, against $134.8 million for a one-year period preceding, is of great significance to the pulp and paper industry as a whole.

Current estimates indicate that waxed paper products will amount to better than 5% of the total dollar volume of the industry.

It is improbable that the present-day wide use of waxed papers would astound Thomas Edison, for in his wise way and with his profound faith in American energy and ingenuity, even 75 years ago Thomas Edison must have recognized the beginning of the cycle that would make his waxed paper invention a major factor in American life.

These factors which we must weigh carefully before we can proceed with the construction of a new mill may, in my judgment, be said to cover the problems of managing this industry in a general way:

1. Wood and other raw materials
2. Water
3. Labor
4. Taxes
5. Capital funds for building
6. Ability to operate at a profit
7. A good site

There remain today two great sources of wood in the United States—an area on the West Coast and another in the South—and in both areas it must be remembered the paper industry is the youngest, the late-comer among the users of forest resources. Lumber, plywood, naval stores, fence posts, railroad ties, even fuel, are still by far the causes of the greatest drain on the national supplies of wood, and of course we always have enormous losses from fire and insects. In the South, for example, some 25,000 saw mills consume approximately 27,000,000 cords of pine timber annually—about 2½ times as much as is consumed by the pulp mills.

New Supply Source

There is today another new source of wood supply which I would like to mention. Through research in the preparation and use of various woods certain species hitherto regarded as "weed" woods, have now become available for papermaking, so that locations which up to now have had to haul their wood great distances can today, or shortly in the future, get supplies in a much more economical area and thus prolong the useful life of their properties very substantially.

Our second problem is that of water—water for processing; for transportation; and for removal of mill waste.

Since the fibers at the headbox of the paper or pulp machine constitute about one percent of the mixture flowing onto the wire, there must be a considerable and reliable source of comparatively pure water.

While water transportation is, of course, tremendously desirable, both for the receipt of raw materials and for the shipment of finished products, it is not quite as important as it was in the past, due to the closer equalization of rail, truck and water-borne costs. Yet, with an annual freight bill of approximately $680 millions to the industry, this feature must not be overlooked.

More important in recent years from a water standpoint has been a method of disposing of waste water and its content of fiber, minerals and chemicals. The various states have taken vigorous steps to police all factories, including those of our own industry, and we have, through the National Council for Stream Improvement, spent thousands of dollars every year in order that every avenue will be explored to improve the condition of streams and rivers most economically. It has seemed to me that the public bodies whose functions include supervision of riparian rights are cooperating in a fine manner with those industries, like ours who have sought to find a solution, and I feel sure that a solution will be found which will permit plants to operate without too great a handicap.

Our third problem is labor. The pulp and paper industry is fortunate in that most of its operations are carried on in small communities, and its labor, especially its skilled labor, is of high caliber. Papermakers are stable American citizens who for the most part own their own homes and have a strong stake in the welfare of their community and their nation. Such people can be found most anywhere in the U.S., so that managements' problem here is merely to be sure that the labor force available for the new mill is adequate.

Tax Reduction Needed

The burden of taxes today is everybody's problem. Industry's earnings are siphoned off at onerous rates, particularly for federal taxes, and it is no exaggeration to say that in 1951 two dollars out of every three left, after all other charges, went for Federal and state governments. the remedy is to seek vigorously a reduction of federal expenditures. We can't expect to have federal taxes reduced if we rush down to Washington, hat in hand and yelling for help, at every turn in the

SINCE JUNE 1951...

57 MILLS in 23 states INSTALLED ROSS AIR Systems

American Box Board Co., Fiber City, Mich.
Bird & Son, Inc., Phillipsdale, R.I.
Blandin Paper Co., Grand Rapids, Mich.
Brown Co., Berlin, N. H.
Brown Paper Mills Co., Inc., Monroe, La.
Champion Paper & Fibre Co., Canton, N. Car.
Champion Paper & Fibre Co., Hamilton, Ohio
Chesapeake Paperboard Co., Baltimore, Md.
Columbia Box Board Mills, Inc., Chatham, N.Y.
Container Corp. of America, Pensacola, Fla.
Continental Can Co., Hopewell, Va.
Cornell Paperboard Products Co., Cornell, Wisc.
Crocker-McElwain Co., Holyoke, Mass.
Detroit Sulphite Pulp & Paper Co., Detroit, Mich.
Diamond Match Co., Plattsburg, N.Y.
Everett Pulp & Paper Co., Everett, Wash.
Fraser Paper, Ltd., Madawaska, Me.
Gaylord Container Corp., Bogalusa, La.
Gibraltar Corrugated Paper Co., Inc., North Bergen, N.J.
Great Northern Paper Co., Millinocket, Me.
Hollingsworth & Whitney Co., Waterville, Me.
International Paper Co., Camden, Ark.
International Paper Co., Panama City, Fla.
International Paper Co., Bastrop, La.
International Paper Co., Springhill, La.
International Paper Co., Natchez, Miss.
International Paper Co., Corinth, N.Y.
Kimberly-Clark Corp., Kimberly, Wisc.
MacAndrews & Forbes Co., Camden, N.J.
Manchester Board & Paper Co., Richmond, Va.
Marinette Paper Co., Marinette, Wisc.
McLaurin-Jones Co., Homer, La.
Mead Corp., Sylva, N. Car.
Mead Corp., Chillicothe, Ohio
Mead Corp., Kingsport, Tenn.
Minnesota & Ontario Paper Co., Inc., Int'l Falls, Minn.
Morris Paper Mills, Morris, Ill.
National Biscuit Co., Marseilles, Ill.
National Container Corp., Clyattville, Ga.
National Paper Prod. Div., Crown Zellerbach, Carthage, N.Y.
Neenah Paper Co., Neenah, Wisc.
Nekoosa-Edwards Paper Co., Nekoosa, Wisc.
Pioneer Div., The Flintkote Co., San Leandro, Calif.
Rayonier, Inc., Doctortown, Ga.
Riegel Paper Co., Milford, N.J.
Riverside Paper Corp., Appleton, Wisc.
St. Joe Paper Co., Port St. Joe, Fla.
Scott Paper Co., Oconto Falls, Wisc.
Sonoco Products Co., Hartsville, S. Car.
Southern Chemical Cotton Co., Inc., Chattanooga, Tenn.
Thames River Div. Robert Gair Co., Montville, Conn.
Union Bag & Paper Corp., Savannah, Ga.
Union Bag & Paper Corp., Chicago, Ill.
West Virginia Pulp & Paper Co., Lake, Md.
West Virginia Pulp & Paper Co., Covington, Va.
And Others.

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business cycle.

Our fifth problem is to raise funds for the venture. In 1776 Adam Smith observed that money is always attracted to a profitable business and, conversely it avoids an unprofitable business. Mr. Smith had, I imagine, no compunction in making such a statement nor did he offer any apologies. Lately, however, there has been a tendency to regard profit and the profit motive as shameful. Why I don't know.

Winston Churchill put it this way: "It is a socialist idea that making profits is a vice. I consider the real vice is making losses." Certainly we cannot expect people to invest their money without reasonable prospect of a fair return because, in addition to intrusting the funds to us and permitting its use for all the expenditures connected with the venture, there is always the *risk* that it may not turn out a success.

Will the new venture be profitable? We must estimate what our product will cost, forgetting none of the items of construction, raw materials, labor, transportation, taxes, depreciation, depletion, interest, selling, administrative, etc., which go to make up that cost. Having done this we must have reasonable assurance that there will be a demand for the product at a price which will cover the cost and leave a margin to pay the owners a fair return.

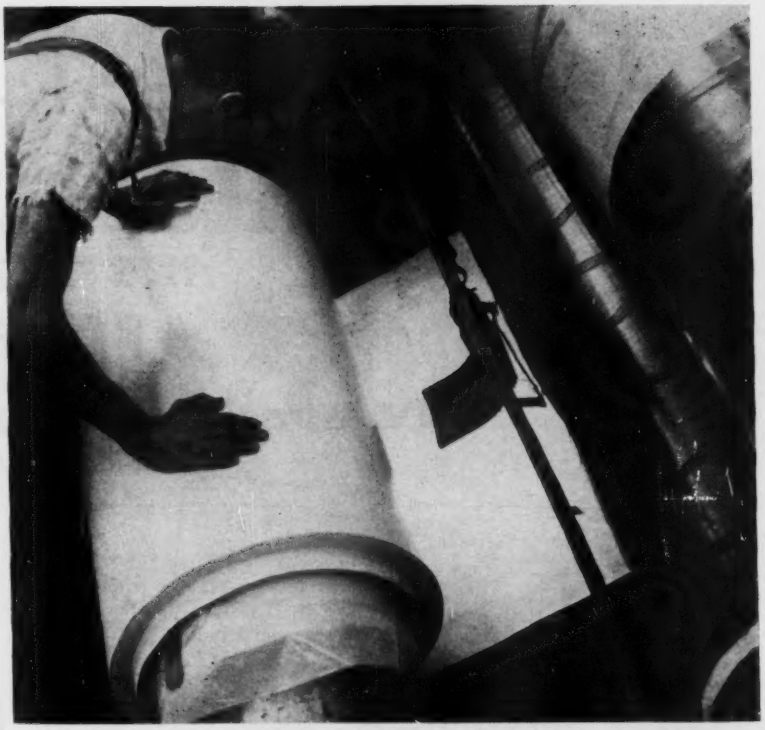
Sales departments must not only sell the output and help customers with their paper needs—they will find new uses as well as new fields where paper and paper products can be sold.

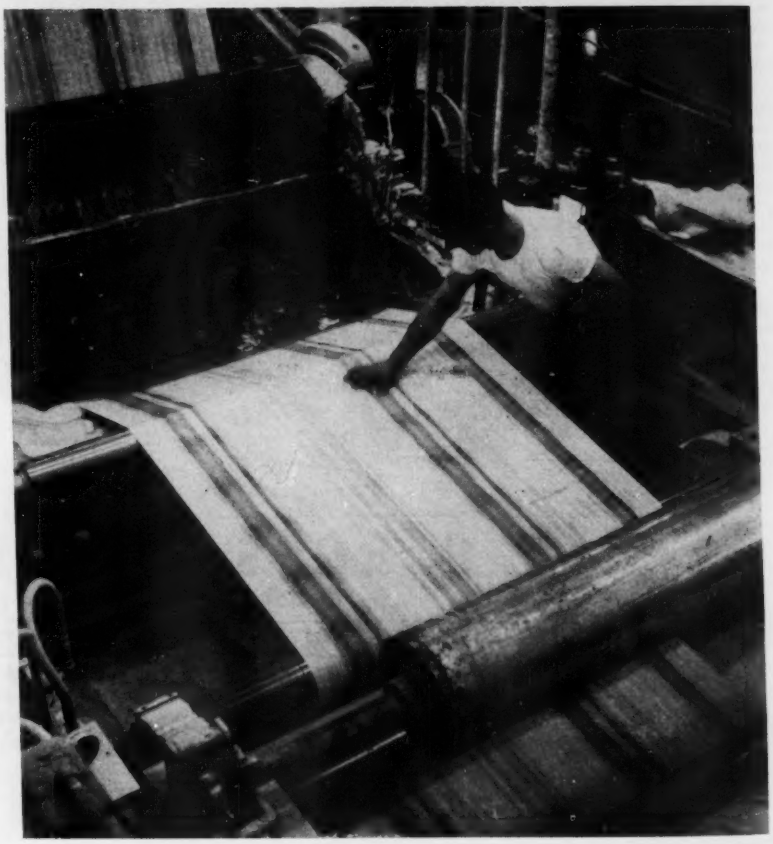
And here I would like to speak of a related problem, connected with earnings—and that is, how much of such earnings, *after taxes*, shall be paid out to the shareholders?

Depreciation and Depletion

I mentioned among the items of cost depreciation and depletion. Depletion is of course what the word implies—a using up of resources—and in the paper industry this means wood cut from timberlands and not replaced by growth. Depreciation in a broad sense is the deterioration which buildings, machinery, equipment, etc. undergo through age and wear and tear. For accounting purposes there is also a certain amount of obsolescence; that is, the value of equipment decreases or ceases altogether because of new methods or the introduction of faster and better machinery.

It might be presumed, therefore, that by putting aside the right amount of money at intervals we would have sufficient on hand to buy new machines as the

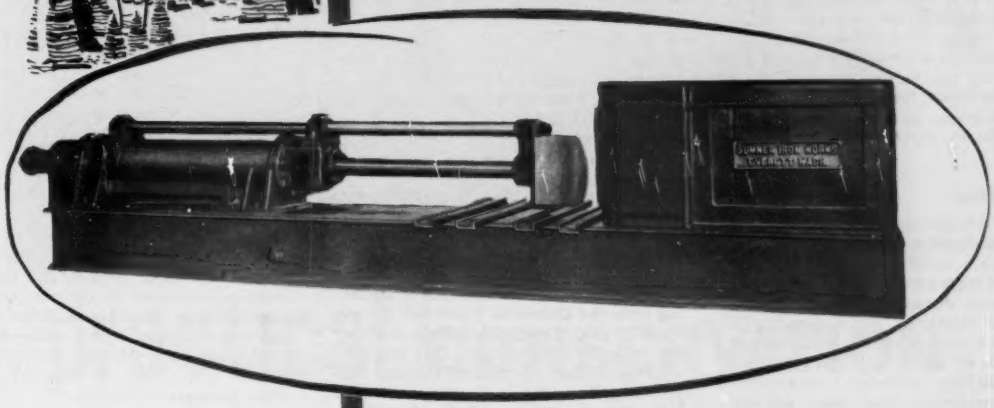




TOP VIEW—CAMERON MACHINE CO. provided the rewinder used in Western Waxed Paper's San Leandro plant in this operation. Large rolls of plain paper, used as inner wraps, etc., as shown here, are slit and marketed in small, easily handled rolls.

LOWER VIEW—SHARTLE BROS. MACHINE CO., div. of Black-Clawson, supplied this coating machine with drive by RELIANCE ELECTRIC & ENGINEERING CO. Final special coating material is being applied by immersion in one of many special formulae developed in the laboratories of Western Waxed Paper Co.

THE AXE *with the* BUNYAN PUNCH!



SUMNER'S *steam* AXE SPLITTER

For rapid breakdown of your logs to a size suitable for chipping or grinding, the SUMNER Steam-Axe-Splitter operates with a force and competence Paul Bunyan might well have envied.

The Splitter customarily is built with a 54" stroke for 48" long wood, but can be constructed to accommodate greater or lesser log lengths. The business end of the Splitter is a heavy single-bit cast steel axe with guide rods and two babbitted guide bearings.

The anvil is of heavy cast steel, cushioned against a wood bulkhead set against a sand-filled box. The entire assembly is mounted on a heavy structural steel frame, making the unit self-contained.

As with all SUMNER equipment, the Steam Splitter incorporates simplicity and sturdiness with proven operating reliability. We invite you to send for details on our complete line of pulp, paper and board mill machinery.

Designers and Builders of Pulp and Paper Mill, Sawmill, Boardmill and Shingle Mill Equipment

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SUMNER IRON WORKS

EVERETT, WASHINGTON

old became no longer of use. But this is not so—for two reasons.

First, is that you may only set aside the original cost and this amount is never enough to buy the same equipment years later. And secondly, the tax laws permit depreciation at rates and amounts that visualize a static industry—in short, not only are depreciation provisions inadequate to actually continue the enterprise as it stands but permit of no expansion or growth.

The result is that the shareholder does not get what his stock earned after taxes —the net income of the business is not distributed to the owners but only a percentage thereof. In 1951 industry generally paid out in dividends approximately 52% of earnings after taxes and kept the balance "for use in the business." It is evident, therefore, that to have a "profitable" enterprise we must make fairly good profits in order simply to stay in business.

Final Problem

My seventh problem, picking a site, involves consideration of most of the other factors—taxes locally, labor supply, climate, wood supply in the vicinity, distance from markets, distance from other materials, water conditions, etc. It also has to do with the responsibilities management has towards its workers. Is this site in or near a healthy, well-run community? Man does not live by bread alone, nor are the concerns of modern management confined to merely keeping the wheels of industry turning.

Each of the seven factors could be resolved, especially if it were isolated and without relation to any or all the others, by investigation and research of the engineering, the operating, the accounting, the sales, the personnel, the traffic, or other departments of the company. Management must be the judge to weigh all the findings and boil them down into one plan.

But more than this, management's most important single responsibility is, in my judgment, to provide leadership. A corporation is a group of human beings working together under the direction *and leadership* of the management, and if management is to fulfill its basic responsibility it must inspire the other members of the team with zeal, honesty, loyalty, and the will to win. Here, in the field of human relationships, lies the acid test of good management.

Hurter Says Alberta Could Support Mills

"Alberta can sustain a number of pulp and paper mills, if all economic factors can be met to establish such a project," A. T. Hurter, president of Stadler, Hurter & Co., Montreal, pulp and paper consultants, told the Engineering Institute of Canada in Calgary, Alta.

Mr. Hurter warned that the only thing that could hold up the development was the investment cost. "For a paper mill that would produce 500 tons of paper a day the investment would be $37,000,000. A few years ago the same plant could have been put up for $12,500,000.

PACIFIC COAST NOTES

RHULE L. BELL has been appointed Pacific Coast industrial control engineer for Westinghouse, with headquarters in San Francisco. Announcement was made by Walter J. Maytham, Pacific Coast district manager. A native of Crowley, La., Mr. Bell was graduated from Southwestern Louisiana Institute in 1940.

L. R. ROEDEL, formerly general manager of Oregon Lumber Co., Baker, Ore., has been promoted to vice president in charge of that organization's sales and production. *WILLIAM J. RUNCKEL* has been promoted to manager of woodpulp hardboard division of the same company.

THOMAS PARKS, for the past 15 years plant engineer at Columbia River Paper Mills, Vancouver, Wash., retired in July. Although available on retainer basis, most of his time is now devoted to raising "show" chrysanthemums. Prior to affiliating with the Columbia River mill he was plant engineer of Hawley Pulp & Paper Co. (now Publishers' Paper Co.) and subsequent to that represented Harland Engineering Co., installing machine drives in U.S., Canada, Japan and Newfoundland. *STARK WILSON,* formerly assistant plant engineer, has been promoted to plant engineer.

MARK STEWART, head storekeeper at Columbia River Paper Mills, retired July 1 following 16 years affiliation with the company. *ARTHUR G. MAKI succeeds* Mr. Stewart.

CLYDE BATY, with Columbia River Paper mills for 27 years, retired as yard foreman July 1. *J. B. STEVENSON* has been promoted to the yard foremanship.

I. H. "IKE" VINCENT, for 32 years log and wood buyer at Oregon Pulp & Paper Co, Salem, Ore., retired July 1. He is succeeded by B. C. Brown, formerly of timber management division, U. S Forest Service.

DR. WALTER F. HOLZER, assistant director of research, Crown Zellerbach Corp., Camas, Wash., left in August to make 3-month study of the industry in Sweden, Finland, Norway, Germany, and England.

RICHARD LAWTON, at one time assistant office manager at Camas, Wash. CZ mill and later in same capacity at Crown's West Linn, Ore. mill, transferred from sales department in San Francisco back to Camas as member of industrial relations department effective Sept. 1st. *J. W. ANDERSON,* personnel supervisor of CZ timber department, Seaside, Ore., also joined Camas industrial relations department at that time.

C. A. ANDERSON, wood technologist, Crown Z, Camas, Wash., has filed as candidate for state representative.

G. H GALLAWAY, formerly CZ resident manager at Carthage, N.Y. took over his new duties in July as assistant resident manager at Camas.

H. A. "GOB" DesMARAIS is new general sales manager of Penn Salt Mfg. Co.

FRED C. SHANAMAN, president of Penn Salt Mfg. Co. of Washington, reaches some sort of milestone this fall when his son, Fred, Jr., enters Dartmouth College. It is certainly unnecessary to report to anyone who knows Fred that Dartmouth is his Alma Mater.

BOB LULL, technical service representative on the Pacific Coast for American Cyanamid Co., and Mrs. Lull greeted a new family addition in May, a baby boy. They also have a daughter.

BILL EDWARDS, veteran newsprint superintendent from years back at Port Angeles and more recently at the West Tacoma Newsprint Co., which he helped start up a few years ago, just thought he was "retired." He has been living at Steilacoom, Wash., and now that the multi-newspaper-owned little mill is in the throes of expansion for a second Pusey & Jones machines, Bill is back on a full-time job helping *NEIL ROBERTSON,* manager, in the mill.

ROGER CHASE, le presidente of R. E. Chase & Co., Tacoma, Wash., which represents chemical engineering and dust control equipment of various companies, announces in his *Chase's News* that he has two new men on his staffs—*FRANK OZANNE* is a new Chase salesman out of Seattle and *CHET SORENSEN* is new office manager in Tacoma.

JOE FOLEY, boss machine tender at Publishers' Paper Co., Oregon City, Ore., has been promoted to paper machine superintendent; *J. LONG,* formerly relief boss machine tender promoted to boss machine tender; and *WARD WILLIS* has been named relief boss machine tender.

New Fiberboard Plant For Pacific Coast

Another development in the ever-widening wood-utilization trend on the Pacific Coast and, particularly, in further integration and diversification of Weyerhaeuser products is the announced plan for a new hardboard plant on the Weyerhaeuser sawmill site at Klamath Falls, Ore.

Previously little used white fir—21,000,000 bd. ft. a year—will be used to make fibreboards of 1/16 to 3/8 in. thickness. Density will vary from 20 to 80 lbs. per cu. ft. Parent to the plant was a pilot operation in Longview, Wash., and the development was greatly aided by what Weyerhaeuser learned about tailoring fibers to meet customer requirements in its recently built Silvacel plant at Snoqualmie Falls, Wash. There bark-free wood leftovers are made into Silvacel, used for insulating, plastics, explosives, fiber for oil wells, felts, fillers, etc.

Plaskon Changes

Plaskon Division of Libbey-Owens-Ford Glass Co. will come under the direct supervision of John D. Biggers, president, as a result of the retirement of D. H. Goodwillie, former executive vice president who directed its activities. W. W. Knight, Jr., general manager of Plaskon, has been

practical CONSERVATION

It's easy to see why Sutherland High Yield Systems* impress papermakers as the most *practical* means of conservation yet developed by the industry. Here are some of the reasons:

1. **Thousands of acres of trees can be left growing, thus producing more wood for tomorrow.**
2. **Substantial savings can be made in the cost of paper produced.**
3. **Installation costs in the average mill are well below the earnings in the first year of operation.**

Why not find out what Sutherland can do for your timber reserves, your quality of product, and your profit per ton? Our experts on practical conservation will be glad to give you the answers . . . write or wire us today.

SUTHERLAND

*U. S. Patent No. 2,591,106

continuous beating systems

Designed, Engineered, Serviced

by SUTHERLAND REFINER CORPORATION

TRENTON 8, N. J.

"Through research in the next 10 years, more money is to be MADE or SAVED in pulpwood operations of North America than has been made or saved in pulp and paper manufacture in the last 25 years."—*DR. LINCOLN R. THIESMEYER, President of Pulp & Paper Research Institute, Montreal.*

LOGGING IN NEWFOUNDLAND IN 1952

By Albert Martin, Woods Manager
Bowater's Newfoundland Pulp and Paper Mills
(An article especially prepared for this PULPWOOD SECTION)

PULP & PAPER *recently asked Mr. Martin to bring its readers up-to-date on pulpwood logging in Newfoundland. In the March 1949 issue of* PULP & PAPER, *a story featured this PULPWOOD SECTION which had been obtained by its editor in an extended visit to Newfoundland operations—part by flying over the island in a small plane, and part by traveling into the bush on pickup truck with Bowater's loggers.*

A novel arch logging operation which was seen on that trip has been abandoned by Bowater's after three years effort because of high costs.

In many respects, the Bowater's operations are intensively mechanized, although not in all phases. Here is the comprehensive report written for this issue by Mr. Martin—describing Bowater's Newfoundland logging as it is carried on today:

Pulpwood logging in Newfoundland may be divided into four different phases: 1. Cutting, late summer and autumn; 2. Hauling, winter; 3. Driving, spring; 4. Mill delivery and export, May to December.

The broken nature of the province geographically with its main streams flowing towards the sea in all directions, divided wood operations into two distinct parts—the inland and coastal jobs. Bowater cuts and delivers wood from practically all parts of the province at the same time. This gives rise to many delivery methods, with which we shall deal.

ALBERT MARTIN, who has been Bowater's Woods Mgr. since 1948. A native "Newfie," he has been with Bowater's nearly 30 years.

Cutting

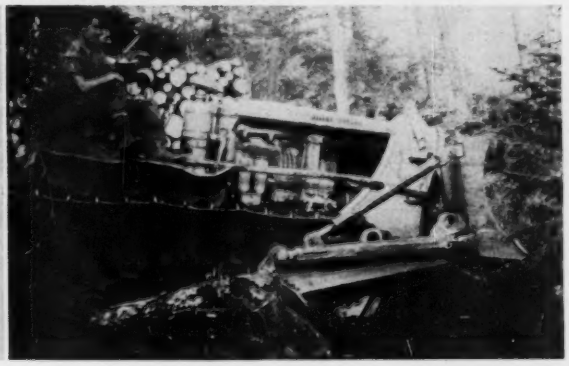
The company operates about 150 logging camps, averaging 50 men each and producing 3 to 10 thousand cords per camp. Pulpwood is cut into 48 in. lengths for the Corner Brook mill and 42 in. for the English mills. In all cases the wood is cut and delivered to the holding booms in rough cords and in the case of the mill it is drum barked at the mill and for export it is barked by floating drumbarkers before being loaded on ships. The method of cutting pulpwood in Newfoundland has not changed much. The power saw has been experimented with but the timber being small (average 5 to 6 in. DBH) it has not yet replaced the buck-saw.

Wages paid cutters compares favorably with mainland companies, basic rates being .85¢ per hour and board .93¢ per day. All wood is cut on a piece-work basis, the price being $5.90 per cord. The average production is 1½ cords per day per man.

Hauling

Practically all Bowater estimates are based on winter hauling and only a small amount of wood is hauled during the summer and autumn by truck to the rivers, but even for this, some method of skidding has to be used and this costly rate of delivering wood is only used in an emergency as when a shortage occurs. The haul-off commences about Jan. 1 and horses and tractors are used. The company has a large number of International TD18 tractors and some D7 Caterpillars, Except for hauls of more than 2½ miles, the horse is the most economical means of hauling from woods to rivers. Hauling is done on contract basis. The season generally lasts until about March 20. In some cases finishes it earlier. Snow depths and frost in Newfoundland vary greatly from year to year. The ideal winter being one with plenty of frost and two to three feet

THESE PHOTOS taken by a PULP & PAPER editor in Newfoundland illustrate the use of Lorain (Thew Shovel Co.) cranes, unloading a shipload of wood at the Bowater mill docks (at left), and one of big fleet of International tractors that are in use in the Newfoundland woods (at right). Mr. Martin, in his article, tells of the uses of the Lorain cranes and International tractors in Bowater operations. The Lorain cranes are used in many places, in many ways. In picture at left, note the four-clawed grab bucket (Wellman Engineering, Cleveland, O.) parked on the dock. It opens 14 ft. and can lift an entire cord from the water in one motion.



WHAT PULP & PAPER editor saw, flying over Newfoundland . . . puddles of water everywhere. There are literally thousands of lakes and ponds in its 40,200 sq. mi. Forests seen here are small, average 6 inches diameter w.h. There are hills, some fairly high, but no mountains. These thick forests are mostly balsam and spruce—some pine.

of snow. When rain occurs, as it often does, the work is set back.

Driving

Here again we find that winter conditions affect the delivery from river banks and lakes to holding grounds. When there has been a lot of snow and rain a successful drive usually follows. The company utilizes hundreds of small streams and lakes and dams are built on the latter which raise the waters 4 to 8 ft. and provide good driving heads. Hundreds of men flock in from the coast when spring arrives and armed with pick-poles and pulp hooks, wood is rolled into the streams and in a very short time reaches its destination the holding boom. Often wood is a long ways fom the mill and some towing is involved. In some cases it has to be towed over small lakes and driven again into main rivers. The company uses a large number of Russell winch boats, some wooden and some steel and where inland towing up to 30 miles may be involved, steel tugs of 103 tons, with twin diesels, are used. In one instance these diesels are 120 H.P. Fairbanks-Morse and in others 115 H.P. General Motors. There are also a large number of 30 ft. boats, powered by various engines.

Mill Wood Delivery

The 550,000 cords of wood cut for Corner Brook mill in 1951-52 may be divided for delivery purposes under the following headings:

(a) HUMBER WOOD. The River Humber is the main artery which feeds the mill, two miles from its mouth and powered largely by the Humber hydroelectric system. At present 180,000 cords of pulpwood cut in the drainage of the Humber and its tributaries is on its way to the mill. Large holding booms are at the mouth of the Humber and another 10 miles up the river at Deer Lake, a long and narrow water into which the Upper Humber flows. Here a steel tug is employed towing. Pulpwood from the mouth of the Humber is towed to the mill as required by a similar tug assisted by a "Sea Mule," a gas powered unit.

(b) TRUCK WOOD. A further 50,000 cords of wood is delivered via the Humber River. This wood is cut in the White Bay drainage north of the province. It is driven into White Bay, towed by a steel tug powered by twin D13000 Caterpillars, to the head of the bay where it is loaded on large logging trucks and hauled over 14 miles of company road to the Upper Humber. This operation is entirely different from the usual truck wood job. A good road had to be built from Hampden in White Bay to the Humber. To avoid steep grades gullies and hills had to be filled in or avoided. The load taken over this road is 10 bundles averaging 2 cords per bundle, a total weight of 45 tons of pulpwood which with truck and trailer makes a total load of about 75 tons.

ABOVE—STEEL BARGE TOWED by ocean-going tug delivers 2,000 cords to Corner Brook, Nfd. Fleet delivers average 650 cords a day.
BELOW—BAG BOOMS like this are still used for some deliveries of pulpwood to Bowater's Newfoundland Mills but it is risky and slow.

ABOVE—TWENTY CORDS on one Pacific Truck and Trailer as used by Bowater's for Hampden-Humber hauling operation. Total load is 75 tons.
BELOW—THIS 75 LORAIN (Thew Shovel) CRANE is one of many used in Newfoundland for diversified purposes. This lifts 2 cords onto truck.

ABOVE—AN AIR VIEW GLIMPSE of Newfoundland operation of Bowater's at Corner Brook, one of biggest newsprint and sulfite pulp mills in world.
BELOW—BUILDING LOG BUNDLES by pontoon method prior to loading them on flat cars or trucks. Fixed crate is built on part-submerged platform.

Trucks used are by the Pacific Truck and Trailer Co., Vancouver, B.C., powered by 212 hp. Hercules diesel engines. Eight trucks in use move an average of 600 cords per 10 hour day.

The pulpwood is loaded into two-cord bundles by the pontoon method in the water, hoisted by a "75" Lorain crane into trucks and moved from them to Riverside and unloaded by another Lorain crane. The Hampden-Humber truck operation has been working since 1943 and approximately 425,000 cords of wood have been hauled in that period.

(c) BARGE WOOD. The coastal operations produced last year some 160,000 cords for delivery to Corner Brook this summer. Bowater's have a contract with Marine Industries Ltd., Sorel, Quebec, for this delivery. The method used consists of loading wood into huge steel barges carrying up to 2,000 cords per load, towed by ocean-going tugs. Last year these delivered wood to Corner Brook at the rate of 651 cords per day for the towing season of 199 days. The towing distance per round trip averages 430.85 miles. Loading and unloading is done by Lorain cranes. For loading the cranes, using a grab, are placed on 260 ton wooden scows tied up to the barges which then load pulpwood from the holding booms. For unloading, cranes operate from the piers. The great advantage of the M.I.L. barges is that they are of shallow draught and can be loaded at the source of supply. Four are in use and two large tugs tow them.

(d) RAIL WOOD. The Canadian National Railway will deliver for Bowater's this year 145,000 cords of pulpwood. West of Corner Brook are two loading points and four to six trains of 187 cords each arrive daily at Corner Brook from these points bringing in all some 76,000 cords. The balance will come from the Gander Lake area, about 180 rail miles east of Corner Brook. This wood is carried in bundles of 1¾ cords. It is loaded from lakes by pontoon method which, briefly, consists of a fixed crate built onto a partly submerged platform upon which men stand placing the wood from the holding booms into wire slings placed into the crates. When filled, the wood in the pontoon (crate) is hoisted by a crane onto flatcars. The wood remains in the wire sling which is kept tight by a locking device until it reaches its destination. It is unloaded by crane also, the sling lock being tripped when the bundle is swung off the flatcar allowing the pulpwood to spill into its new holding boom.

(e) OCEAN TOW. There was a time when much pulpwood was delivered to Corner Brook by ocean tow; wood from the west coast being towed in booms containing up to 2,500 cords, at great risk from distances of 90 miles or more. Much time was lost waiting for suitable weather. A small amount, not more than 7,000 cords, is still delivered from the Port au Port peninsula each year.

In White Bay, however, it has been impracticable to load wood on barges for the Hampden-Humber truck haul and as the long bay is generally like an inland lake in summer, no great risk is involved, and more than 50,000 cords are towed each year to Hampden at its head.

Summary

Summarizing, wood for the Corner Brook Mill is delivered thus:

	1952
The Humber River	180,000 cords
Truck wood via	
Humber River	56,000 "
Barge wood	160,000 "
Rail wood	145,000 "
Ocean tow	5,000 "
TOTAL	546,000 cords

(f) EXPORT WOOD. From East Newfoundland ports this summer it was expected 103,000 cords of 42 in. pulpwood would be shipped to Bowater mills in England. This wood was driven to five different loading points. Three marine drumbarkers capable of peeling 250 cords each per day were at holding booms. This wood was then towed to ship's side, loaded by the pontoon method, and hoisted on board by ship's winches. Cargoes of not more than 1,600 cords are usually taken.

From the mainland ports of St. John, N.B. and Halifax, N.S. further cargoes totalling upwards of 60,000 cords were purchases for the English mills. This was bought, scaled and shipped under the supervision of Bowater's Newfoundland Pulp & Paper Mills using Newfoundland personnel.

97% TO 100% BUDWORM KILL VIA AIR

DIRECTOR OF AERIAL OFFENSIVE against budworm was B. W. "BARNEY" FLIEGER, Forest Education Director of New Brunswick International Paper Co., former Professor of Forest Engineering at University of New Brunswick.

THIS IS ENEMY against which fleet of 21 planes spraying insecticide were ranged during past summer in New Brunswick. Budworm shown here is in his sixth instar stage when he is feeding most heavily on evergreen needles. Larva reaches maximum length of about ¾ inch.

Most extensive aerial spraying job against forest insects ever undertaken in Canada was successfully completed recently by New Brunswick International Paper Co. in cooperation with the New Brunswick government at a cost of more than $500,000.

Of 23 planes participating, 17 were from Central Aircraft Inc., of Yakima, Wash., headed by A. L. Baxter. Old flying hands at insect spraying, this company has done 4,000,000 acres of spraying on Oregon, Washington and Idaho forests, killing the Tussock moth pest and hemlock looper, as well as the spruce budworm, which was the enemy in New Brunswick

The New Brunswick operation made a 97% to 100% in a 193,000 acre Crown forest containing over 2,000,000 cords of mature pulpwood on the southeast stretches of the Upsalquitch River, east and north of Maine.

Central Aircraft's biggest forest job was in 1947, a 347,000-acre project in Idaho, against the Tussock moth. It made a 98% kill in Oregon and Washington in battles with the budworm. According to Mr. Baxter, the New Brunswick spraying was distinguished by more precision flying and careful checking than any previous forest projects. Small pieces of DuPont sensitized papers placed in the forest accurately measured varying intensity of spray results. Best results are with one lb. of DDT to one gal. of salt solution.

From coast to coast in Canada, it is estimated there are some 70,000,000 acres of budworm infestation. In Washington, Oregon and Idaho only 5,000,000 acres have been sprayed against forest insects in seven years and Mr. Baxter says there is far more forest acreage infested than all the available planes could spray for years to come. A touring PULP & PAPER editor recently observed a big swath of national forest in western Montana which has been attacked by the budworm, too.

A new type of spraying now being done experimentally is to attempt to kill vine maple in tree farms in the Far West, so commercial tree growth will increase.

Central Aircraft got into the business of aerial spraying in 1943 in an "Operation Potato Bug." This led to cherry tree spraying which is done every year now in eastern Washington—a pinpoint job hutting every individual tree in Yakima Valley. There, are of course, many aircraft companies in the orchard spraying business now.

In New Brunswick, there were a total of 170 men—flyers and land forces—on a job which took 48 days. Often, bad weather slowed the job which Mr. Baxter says, otherwise, could have been done in 6 days. Overall plans were supervised by Vernon Johnson, vice president and general manager of N. B. International.

The infestation had been first noted in 1948, and foresters had a vivid memory of an attack in the 1920's when an estimated 22,000,000 cords of pulpwood in New Brunswick alone, worth $500,000,000 at current prices, was destroyed.

The battle was directed by B. W. Flieger, the company's forest education director. All Central aircraft planes used in the New Brunswick campaign were 450 h.p. Stearman biplanes, equipped to spray in droplets of 150 to 300 micron size at the rate of 20 acres a minute.

Two additional planes were supplied

CENTRAL AIRCRAFT plane from Yakima, Wash., is shown at left spraying New Brunswick pulpwood with DDT to kill budworms. Kill was 97% to 100%. Trail of spray showing in this picture is four miles long. At right, airfield carved out of wilderness for fleet of 21 planes.

by Skyway Air Services, Langley, B. C. Aviation Services, Moose Jaw, Sask., and Leavens Bros. Air Services, Toronto, supplied one plane each, and Leavens provided two observation planes from which the operation was directed and controlled.

Last fall, two 2,500 foot runways were carved out of the heavily timbered plateau in the approximate center of the area. Other facilities built during the winter included an access road and housing—building of what was called Budworm City. Over 200,000 gallons of insecticide, 35,000 gallons of aviation gas and materials and equipment had to be portaged in. About one gallon of solution was sprayed per acre. Timing was critical—to kill the insect when it was most vulnerable. United States Forest Service and other observers witnessed operations.

APA—Northeast Pulpwood Hold Joint Technical Meeting

The Northeast Pulpwood Research Center and the Northeastern Technical committee of the American Pulpwood Ass'n held a joint meeting at Long Lake, N.Y., June 11-12, with 26 members of the Northeastern pulpwood industry in attendance. The group studied chemical debarking treatments at the Cedar River headquarters of International Paper Co., and watched the operation of new woods equipment which included a Somers conveyor-type pulpwood loader; a Schield Bantam truck-mounted crane equipped with clam shell grapple; and IP's wire skidding operations for spruce and fir.

On chemical debarking, a girdling crew applied Atlas "A" Debarking Compound with a brush to girdled trees in one demonstration, and in another the McLeod girdler manufactured by Woodlands Equipment Co. of Gorham, N.H., was shown to be effective in girdling trees where bark thickness did not exceed 5/8-inch and on clear surfaces.

The Schield Bantam truck mounted crane observed by the woodlands men is manufactured by Schield Bantam Co., Waverly, Iowa, and is equipped with a 1/8-cord capacity clam type pulpwood grapple. It is a modification of a design by Morris Quinn of Brown Co. for handling of 4-foot pulpwood from pile to truck, truck to rack car, or open top pulpwood car, truck to storage pile, or storage pile to rack car.

BUSH COURSE FOR NEW IPC STUDENTS

THIS GROUP took Institute of Paper Chemistry's annual summer "bush course" for new students at Trees for Tomorrow Camp, Eagle River, Wis., learning forest management, technology, etc., and also visited Rhinelander, Consolidated, Mosinee and Neenah Paper Co. Mills.

L. to r.: DR. I. H. ISENBERG, wood technology research associate; JACK CHINN, Des Moines, Ia.; DAVID MOST, Cambridge, Mass.; VINCENT RUSSO, New York; NICHOLAS JAPPE, Anacortes, Wash.; ROBERT HISEY, Glens Falls, N.Y.; KRISHAN TALWAR, Delhi, India; JOHN EISCH, Milwaukee, Wis.; ROBERT GROTHAUS, San Antonio, Tex.; JOSEPH PARKER, Norfolk, Va.; DAVID GAMBER, New York; and LEO BARNARDIN, Lawrence, Mass. Not in picture: E. T. TURNER, Jr., Dayton, O., and Dr. J. E. TODD.

Largest Pest Control Program in World

Through cooperative action on the part of local-level personnel representing federal entomology and forest agencies, state forestry departments and private timber owners, the world's largest artificial control program of forest insects has been carried out in Pacific Northwest. This year, the fourth of the program, 670,000 acres of timberlands in Oregon and Washington were sprayed to control spruce budworm with average mortality running between 97 and 99 per cent—accomplished via an economical program.

This program was chairmaned by Ernie Kolbe of Western Pine Assn.

New West Virginia Duties

M. H. Collet, formerly assistant to W. J. Bailey, vice president, West Virginia Pulp and Paper Co., has been assigned to explore opportunities for his company in Latin America. This has involved changes in the woods and woodlands departments which place D. Y. Lenhart as general manager of woodlands, with offices in New York, and P. T. Lannan, Jr., as technical advisor to the vice president and in charge of administration of Southern, Appalachian, and Northeastern forestry and pulpwood research projects. Mr. Lenhart has been assistant manager of the Southern woodlands in Summerville, S.C., and Mr. Lannan has been manager of Westvaco Experimental Forest near Andrews, S.C.

Western Forest Group Plan Victoria Meeting

Among the Canadian pulp and paper representatives to address the annual meeting of the Western Forestry and Conservation Association in Victoria Dec. 9-12 will be Dr. Lincoln Thiesmeyer, president Pulp and Paper Research Institute of Canada, Montreal, and Walter Koerner, managing director of Alaska Pine & Cellulose, which operates sulfite mills at Woodfiber and Port Alice, B.C.

Dr. C. D. Orchard, deputy minister of forests for British Columbia, is president of the association.

THE HARRISON LOADER CRANE

Designed for the special requirements of pulpwood handling

patents pending

A new design feature, the automatic counter weight, gives the Harrison Loader Crane unequalled stability. Moving back as load is lifted, the counter weight transmits load stresses to the rear axle, makes operation easier, reduces strains caused by "rocking." Counter weight is hydraulically operated, fully automatic.

With a high lift to unload trucks and a long reach to place loads at far side of gondola, the loader crane speeds up every phase of pulpwood handling on the storage yard.

The loader crane is mounted on a Case "LAI" industrial tractor—weight of loader and tractor including counter weight is 23,770 pounds.

For further information write or call —

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COLUMBIA, SOUTH CAROLINA

HOW WOOD IS PRODUCED FOR ATENQUIQUE PAPER MILL

A UNIQUE MEXICAN COMPANY

By Rafael Quintana L.
Assistant Manager, Union Forestal de Jalisco y Colima, S. A.

An illustrated story of Mexico's first "mass-production" paper industry—Compania Industrial de Atenquique—the first mill built to run at long periods on only one grade, kraft paper or kraft board, as do some of the big mills in Southern United States—was published in the May, 1948 issue of PULP & PAPER. *It was obtained on an editorial expedition to the new mill at the new town of Atenquique in the State of Jalisco. In the Jan. 1952 issue of* PULP & PAPER, *a sequel told of improvements made in the pulp and paper mill in five years of operation.*

Here now, is another exclusive article prepared on the unique company which was formed to supply the mill pulpwood needs. It is called Union Forestal de Jalisco y Colima, S. A., with headquarters in Guadalajara, Jalisco:

In PULP & PAPER it was mentioned that the late Enrique Anisz organized the kraft pulp and paper company, Industrial de Atenquique. He not only worked for years to establish that concern but he also was founder of the Union Forestal de Jalisco y Colima, the only company of its kind in Mexico.

(Ed. note: A brilliant Czechoslovak immigrant, Sr. Anisz came to Mexico as a smalltime storekeeper, rose to eminence as an industrial promoter. But he died before he could see Mexico's first volume producing paper mill in production. A government loan was instrumental in building the mill and establishing the industries; later both the mill and separate pulpwood company reverted to government ownership. They are still owned by the state.)

The Atenquique mill is perhaps one of very few in the world which produces pulp *entirely* from virgin timber. It is a long-fiber pine, low in resin content. Logs average 20 to 30 in. diameter, some are much bigger, and rings on one tree showed it was 179 years old.

The importance of our company is obvious and its success is due to the interdependence and close cooperation between the paper mill and ourselves in accord with the government plans to keep the low costs at a minimum.

The actual management is in hands of Gustavo Alatriste, young and dynamic. with broad experience. He has grown with the company, since it started. He is well qualified for his duties.

Among his close collaborators are, Alberto Esponda, a certified public accountant, charged with handling finance reports and the handling of purchases. Responsible for better use and utilization of wood waste and sub-products is the writer, who is assistant manager. Both men are assistant managers.

The superintendent is Antonio Sanchez Aldana, charged with organizing and directing the logging operations. He studied at Santa Clara University in California.

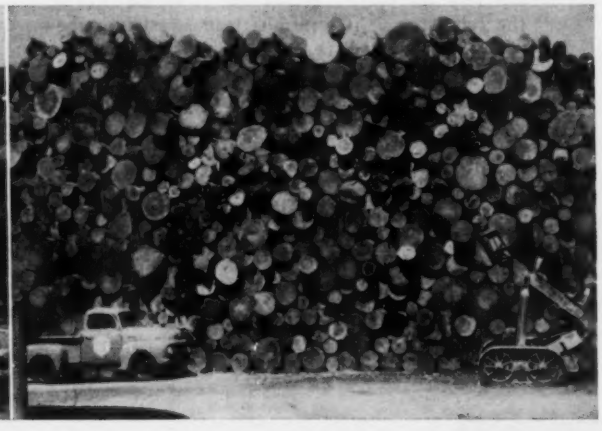
The daily delivery amounts over 1240 cords. Consequently we are compelled to operate also in the private and "ejido" forests paying a fixed price for the standing timber in which we have invested considerable money. All the legal contracts and problems are handled by Lic. Francisco Parra M. N.

(Ed. note—The "ejido" is a legacy of the Mexican Revolution, which brought to Mexico a kind of government historically based on ancient Indian ideas and ideals of economic and social justice, which should not be confused with European socialism though it is a sort of collectivism. The "ejido" is a plot of timber expropriated from private owners and given to a large group of men in a village, or to an entire village. Large holdings were sometimes broken up and given to several village groups. The new owners are called "agraristas" but, as a matter of fact, they probably were neither steady farmers or workers. The ejido is a common type of timberland ownership and probably is going to exist for a long, long time in Mexico, as far as a PULP & PAPER editor could observe on a tour.

GUSTAVO ALATRISTE (left), who is General Manager of Union Forestal de Jalisco y Colima. ANTONIO SANCHEZ ALDANA, who attended college in California, who is Superintendent of Logging Operations.

In order to keep good control of all the transactions the government through the Forestry Resources Office has a Technical Forestry Unit—encharged with all the technical problems concerned with the care of the timberland and with keeping up the nurseries. Last year we had a planting of over 1,800,000 trees for reforestation. The Technical Forestry Unit guards against fires by means of observation towers, and with patrolmen on land and in the air.

We have around 275,000,000 cords of coniferous timberland for the Atenquique mill and our company supplies over 3,-



PATIO CENTRAL of the Union Forestal logging operations in Mexico. In photograph at left are about 10,000,000 cords of peeled wood held in reserve for the rainy season. Note conveyors below bluff. One leads direct to chipper, another to storage in the mill yard. Across road from stacked wood is small office. Below road at lower right is hospital. Photo at right: One of "Tengas" or piles, about 50 ft. high. There is 400 cords in each pile. Note comparative size of truck and of Hyster arch (made at Portland, Ore.).

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Omaha—Omaha Electrical Works

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NEW JERSEY
Atlantic City—Charles A. Buckley
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Trenton—Lockwood Elec. Motor Serv.

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Albuquerque—Electric Motor Company
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CONTROL — Manual, magnetic and combination starters; push button stations and components for complete control systems.

TEXROPE — Belts in all sizes and sections, standard and Vari-Pitch sheaves, speed changers.

PUMPS — Integral types from ½ in. to 72 in. discharge and up.

TOP VIEW IS OF NEW TOWN of Union Forestal, in Jalisco State, Mexico, result of logging activities for the Atenquique Mill. This view looks down on town from a hill point. There are 60 homes and a swimming pool, fronton and tennis courts, etc.—something new in the woods. Below—Mexican school children in an exercise.

SCENES IN UNION FORESTAL logging country of Jalisco State in Mexico: Upper left, a D7-11 Caterpillar (USA) and Hyster Winch in operation.
Upper right: One of Fire Protection road signs —put up on the Mexican roads in the area.
Lower left: A young Mexican lad learning about logging—note the size of pulpwood he is sitting on.
Lower right: Boys and girls at a school built far up in the woodlands. Education, as well as jobs is brought to the Mexican country folk.

500,000 cords a year. The regrowth is estimated in 2%, that is, 5,500,000 cords a year. We guarantee a perpetual supply taking into consideration that we cut 30% in a stand using a selective system. An increase of the mill's production can be handled up to a 35%. We have delivered to Atenquique the following volumes for the last three years:

1949	3,338,371 cords
1950	3,945,347 cords
1951	3,905,962 cords

Orders Sumner Iron Works Plant

We have mechanized our operations, using more mechanical transport and have improved almost all our logging roads. A splitter plant has been ordered from Sumner Iron Works, Everett, Wash., U.S.A., to be used in combination with a 108 in. diameter log deck swing cutoff saw, plus a Skagit hoist BU-15 from the Skagit Steel & Iron Works at Sedro-Wooley, Wash., U.S.A. We are able to eliminate about 220,000 cords of saw dust, eliminating our circular saw installations, by use of the new equipment.

The paper mill does not require its own barking set-up, as we are delivering logs barked by hand in the woods, and the trees are being delivered in short dimensions.

We operate D-7 and D-8 Caterpillars equipped with three drum donkey and yarder to each one. Our logging equipment consists of 3 International TD-14's, 3 Allis-Chalmers HD-14's, and 9 Allis-Chalmers HD-7's. The transportation equipment consists of 22 large trucks and 40 small ones. For our roads up-keep we have one Adams motor grader and 12 dump trucks.

We have built several rural schools within the timberland and a small series of logging camps and brick houses for our workers.

As long as our logging operations are limited to supply pulpwood, our manager has pushed studies to find new uses for the waste remaining after the logging. This waste is ideal to produce fiberboard, both softboards and hardboards, and our investigations show a substantial amount of waste can be used. We have been working on the possibility of using the stumps to obtain turpentine, rosin and pine oil, by means of a distillation process.

SWEDISH SCREEN DISCUSSED AT DETROIT

A new type of screen introduced from Sweden by Oliver United Filters was a subject of a paper and discussion at the Superintendents Convention in Detroit earlier this year. Here is a picture of it—the Oliver Ahlfors screen—obtained from the manufacturer by PULP & PAPER, and it will interest many who heard the talk at Detroit on the new upflow principle of screening given by A. W. Huberty of Oliver United. Also at Detroit was Fred Schorken of the same company.

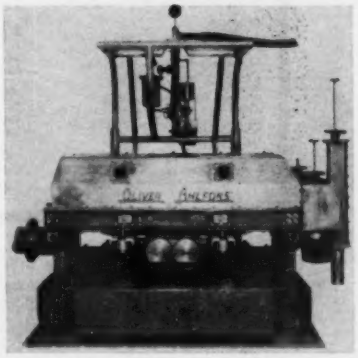
Conventional screening has been by downward flow through flat screens.

What Mr. Huberty said, in part, was:

"Pulp is fed to a screen vat under a positive hydraulic head, and stock is screened upward through the screen plates under gentle agitation from a vibrating diaphragm. Accepted stock overflows the end of the screen and out the accepted stock outlet. Dirt, shives, scale and oversize particles remain in suspension in the screen vat and pass out through the reject outlet. The volume and consistency of the reject flow is closely controlled by the adjustable sleeve on the reject outlet.

"An oscillating automatic shower is provided for keeping the screen plates clean continuously, and acting in reverse direction to the flow of pulp, drives bark and shives back into the unscreened pulp and out with the rejects. Since the upflow screen operates with a positive and uniform hydraulic head, there are no dry plates which results in high capacity per unit of screen area. Floor space requirements are thereby reduced as much as 50%. Also as there are no dry plates, there is no pounding of rejects through the screen as with conventional flat screens when there are occurrences of dry plates.

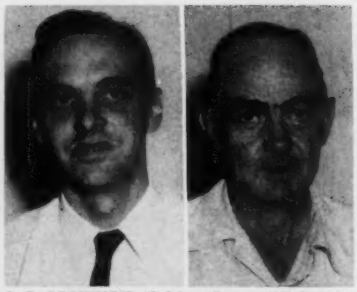
"Screening is on higher consistency pulps, thereby reducing the number of deckers required and provides still further floor space savings.



"The screen is provided with a hood which prevents splashing of pulp, and assures a clean, dry screen room. All parts of the screen coming in contact with the pulp are stainless steel except the screen plates themselves which are chromium plated bronze."

Diversifies Operation

United Wallpaper, Inc., has created a new division for manufacture of colors as the first step in its recently announced diversification program. William H. Yates is president. Curt T. Eubel has been named general sales manager of the new division. Thomas A. McCormick has been appointed chief chemist and John W. Close, director of Technical service.



J. O. BOESSINGER (left), a Syracuse University Paper School graduate, is new Division Manager for Mead Corp.'s Nashville (Tenn.) Mill. He was previously Pulp Mill Superintendent and Chief Chemist at Mead Corp., Harriman (Tenn.) mill. Mr. Boessinger succeeds Paul W. Hardesty, who was transferred to North Leominster, Mass. At Harriman, Ernie Schindler was transferred from Kingsport, Tenn., to fill Mr. Boessinger's place.
C. E. BURGESS (right) Paper Mill Superintendent at Mead Nashville, Mill, who is engaged in effectuating an improvement program for the company.

Ontario Wood Export to U.S.

Five years ago the Ontario government warned Wisconsin and other U.S. firms cutting and exporting Ontario pulpwood to their U.S. operations that they would have ten years to gradually discontinue these exports. The Ontario program calls for the processing of the wood in Ontario, and would permit only export of pulp or manufactured products.

Now these mills have been told, in effect, the warning was serious and they have five years left. Confusing is the fact that some of the news came by radio across the lake, obviously meant for home political consumption in Ontario. Under present conditions, probably no U.S. company would consider building a $20,000,000 to $30,000,000 mill in Ontario, as would be required.

Marathon, KVP and Kimberly-Clark already have mills in Ontario, but Marathon, K-C and others also depend on Ontario for wood for U.S. mills. Much of the timber comes from crown lands. Largest holder of freehold timber is Consolidated Water Power & Paper and for this reason, it is believed, they may be in a stronger position than some others.

Ludwig Name Honored

Many pulp and paper engineers and others who attended the TAPPI Engineering Conference in Buffalo, N.Y., a few years ago, will recall the late Leon R. Ludwig, who welcomed them to Westinghouse Corp.'s big Buffalo, N.Y., on a tour there, where he was manager. Westinghouse now announces it has created a Leon R. Ludwig Fellowship Fund to aid its young employes to continue graduate studies. Very few delegates at Buffalo realized Mr. Ludwig held more than 70 patents, was a prolific inventor, and made important contributions in atom bomb development.

ANOTHER* EXAMPLE OF **ELLIOTT** Excellence IN MOTORS

* Mica Insulation

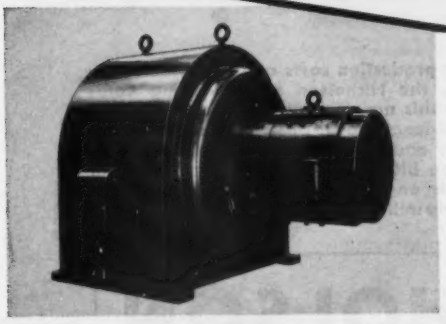
Coils—the most expensive component to replace, yet the first most likely to require replacement—are entitled to the finest materials and workmanship.

That's why your Elliott 2300-volt Class A insulated machine will have a continuous one-piece wrapper of heat-proof, water-proof, high-dielectric MICA along the entire slot portion of the coils.

The many, many turns of tape required—to bind conductor strands together, to secure the mica wrapper and to insulate the end-turns—are all painstakingly applied by hand. No mechanical method has proven so highly satisfactory for insuring an evenly lapped and uniformly tight taping job.

Vacuum-pressure impregnated coils are supplied for outdoor service or where there is excessive moisture.

Coil insulation is twice tested—before installing in the machine and again after testing of the completed machine. Test voltages exceed A.I.E.E. specifications.



An Elliott high-speed synchronous motor with overhung type exciter mounted on bracket bearing.

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October 1952

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IMPROVE THE WATER RESISTANCE OF YOUR STARCH-CLAY COATINGS WITH RCI BECKAMINES

• Not only the wet-rub, but also the wax and brightness of starch-clay coatings will be improved when you add RCI BECKAMINES. These resins are starch reactive, that is, capable of forming a chemical union with starch, either during the preparation of the adhesive or subsequently, in the processing and curing of the adhesive. They may be added to the starch during the cook, at top heat as a chill-back, or to the cooled finish adhesive. RCI has developed three BECKAMINES—P-364-A-70—P-679-65—P-685-50—each of which does a specific job of improving your paper coatings. To find which of these best meets your requirements, write for a copy of booklet number 300.

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SYNTHETIC RESINS • CHEMICAL COLORS • PHENOLIC PLASTICS • PHENOL • GLYCERINE
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Personals

SOUTHERN NEWS NOTES

ELMER F. MYERS, a Yale 1941 graduate with five years in the army, has moved to Fayetteville, North Carolina, to be sales engineer for Farrel-Birmingham Co., Inc., in Virginia, Kentucky, Tennessee, North and South Carolina, Georgia, Florida and Alabama.

WALTER THAD McDANIEL, Washington, D.C., attorney and formerly executive secretary to Sen. Walter F. George, has been appointed industrial relations manager for Southeast Operations of Rayonier Inc., according to Vice Pres. William E. Breitenbach. Mr. McDaniel will have offices at Jessup, Ga., where Rayonier is building a new mill, and will also oversee relations at Fernandina, Fla., and the Southeast Timber Division. He was an air force captain in World War II.

QUINTIN T. HARTNER, president of Urania Lumber Co., Urania, La., and a father of forestry in the South, died at 74 in Shreveport.

WILLIAM MILHELM is new sales rep. for Chemical Div., Celanese Corp., in new office, Liberty Life Bldg., Charlotte, S.C., for Southeast states.

L. C. MENIUS, assistant personnel analyst, Union Bag, Savannah, returned from military service, as did also *J. E. HUNGERPILLAR*, assistant superintendent, paper processing dept.

GEORGE G. WEAKS, president of Weaks Supply Co., Monroe, La., well known supplier to the pulp and paper field, has been named to the Louisiana Board of Commerce and Industry by Gov. Kennon.

HARRY TAYLOR was promoted to assistant chief chemist and *C. C. RIPPBERGER* to process engineer at Rayonier, Fernandina, Florida.

CARL PLUMLEE became production manager of Fleming & Sons, Inc., Dallas, Texas, on September 15. He formerly was paper superintendent at Macon Kraft Co., Macon, Ga.

RUSSELL G. SEIP, chief engineer, St. Regis, North Pensacola, Fla., was recently on a tour of the Pacific Coast seeing kraft operations.

LUCIEN WHITTLE, in charge of woodlands division, Brunswick Pulp & Paper Co., Brunswick, Ga., and Mrs. Whittle made a summer tour through the Pacific Northwest and into Canada. He saw logging operations at several places.

VAN L. McNEEL has been named southern sales agent for Olin Cellophane Div., Olin Industries, with headquarters at 127 Peachtree Street NE, Atlanta, Ga.

HENRY B. BARROW, application and service engineer in pulp and paper for General Electric in Atlanta, Ga., received the company's Charles E. Coffin award for work of outstanding merit during 1951.

L. M. CHAMPAGNE AND C. A. BARLOW, respectively assistant to production manager and paper mill superintendent for Gulf States Paper Corp., Tuscaloosa, Ala., were awarded 35 year and 30 year service pins recently. R. J. Hersh, maintenance adviser, has retired after 24 years service.

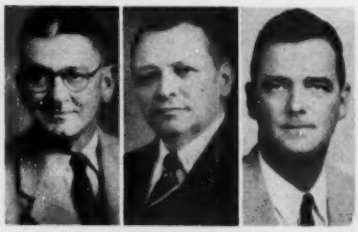
HOMER J. HANSEN has opened an office at 608 Grand Theatre Bldg., Atlanta 3, Ga., for the Springfield Boiler Co.

JAMES M. McNAMEE has been named sales representative of Industrial Chemical Division, American Cyanamid Co., for Georgia and Florida, with headquarters at 1370 Spring St., N.W., Atlanta, Ga.

JOHN H. TENISON has been added to the field sales staff of Minneapolis-Honeywell Regulator Co., with Houston, Texas, headquarters. *CALVIN L. PERILLOUX* has been added to the New Orleans field sales office.

JACK STEWART, for a number of years representative of Goslin-Birmingham Mfg. Co., Birmingham, Ala., is now with Clark & Vicario Co., devoting major time to the Deculator.

SOUTHERN KRAFT PROMOTIONS



PROMOTED IN SOUTHERN KRAFT DIV., International Paper Co., Mobile, Ala. (l to r):
ARTHUR L. ROSS, new Asst. Gen. Mgr. under Erling Riis, who recently became V. P. and Gen. Mgr., succeeding Jack Friend. Mr. Ross ran a sugar factory in Cuba, returned to his native Bastrop, La., to start as chemist in this industry. He was former Mgr. of Georgetown mill and recently Gen. Production Mgr.
CARLEY L. CRAIN, promoted to Gen. Production Mgr. for all nine mills in South. He had been Asst. Prod. Mgr. Born in Washington Parish, La., he started in industry as water boy at Bogalusa, worked up to Coordinator of all Pulp Mills. At same time, for some years, he was Mgr. at Georgetown and lived there.
GEORGE T. WARD, a graduate of Virginia Military Institute in Civil Eng., he became at age of only 39, Chief Engineer for all Southern Kraft mills (that was in 1946). In new duties he is in charge of all Engineering, Construction and Power. His first job with I. P. was helping build Panama City Mill.

AMONG ROANOKE SPEAKERS

AMONG SPEAKERS AT JOINT SOUTH-SOUTHEAST SUPTS. meeting at Roanoke, Va., Oct. 8-10:
HERBERT O. TEEPLE (left), Corrosion Eng., Development and Research Div., International Nickel Co., who will talk on digester corrosion, and C. WILLIAM CONVERSE (right), Manager, Pulp & Paper Div., Sprout, Waldron & Co., who will discuss semi-chemical pulping.

JOINT SUPTS. MEETING IN VIRGINIA

LEADING PARTICIPANTS IN ROANOKE MEETING (left to right): WALTER L. McHALE, Vice Pres. of Southland Paper Mills, featured speaker on dinner program; JACK THOMPSON of Southland and CECIL B. CURRY of Nat. Container of Virginia, respective Chairmen of Southern and Southeastern Supts. Divisions. Both are Pulp Supts.

The annual fall joint meeting of Southern and Southeastern Superintendents under their respective chairmen, Jack Thompson and Cecil Curry, is completed for the Oct. 8-10 sessions at Hotel Roanoke, Va.

H. O. Teeple of Inco will bring digester corrosion reports up to date; Charles Spalding of Beloit heads a panel on machine vacuum installations; Bill Converse of Sprout-Waldron and T. B. Calhoun of Oliver United will talk on refining and screening; Ralph Knoll of Scott Paper on quality control and Bob Burnett of Crossett on the Beloit pick-up belt. Harry Sayre of United Paperworkers Union, Andrew Miller Jr., of Mead Corp., and Rex Parrott of Sonoco are all three talking at different sessions on industrial relations subjects, indicating the importance they are given.

Vice Pres. W. L. McHale of Southland Mills is scheduled dinner speaker and a smorgasbord and mill tour are planned for one day at Mead's Lynchburg Mill.

Southeastern TAPPI

A Southeastern Section of TAPPI was issued a formal charter at a meeting of the Southeastern Pulp and Paper Society at St. Simons Island, Ga., September 19. R. G. MacDonald, TAPPI national secretary-treasurer, presented the charter. G. W. E. Nicholson, vice-president in charge of production, Union Bag & Paper Corp., and R. S. Hatch, acting director of research, Hudson Pulp and Paper Co., past presidents of TAPPI, greeted the group.

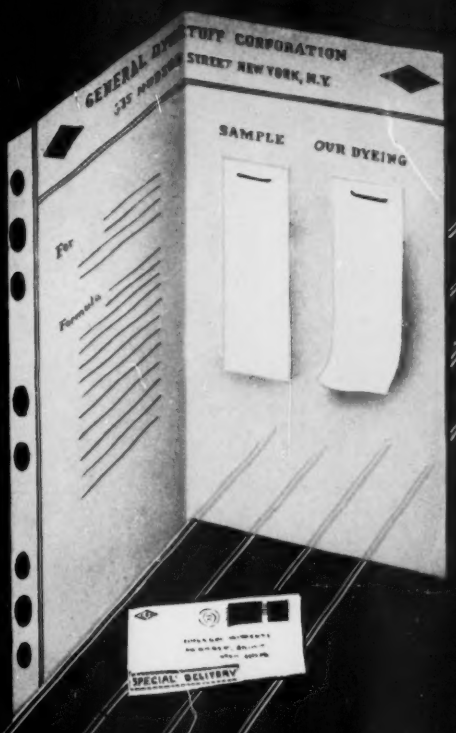
Another Oklahoma Mill

Coronado Mfg. Co., Pryor, Okla., a subsidiary of Certain-teed Products Corp., is now in full operation. The new mill produces 100 tons daily of liner paper for use in the Certain-teed gypsum wallboard plants. J. V. Hart is mill manager.

Rayonier's 25th

Rayonier Inc., is celebrating its 25th anniversary this year, its oldest operation being the Shelton, Wash., mill which was the first mill designed to make bleached sulfite from Western hemlock, then widely regarded as unsuitable for pulping.

Color Matching Service



The General Dyestuff Corporation's Quick Color Matching Service is tuned to meet today's needs. Color matches are mailed to you the same day your request is received . . . formulas sent by wire or telephone at your request. We invite you to take advantage of our Quick Color Matching Service.

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Personals

CANADIAN NOTES

R. T. STEEDMAN who has been vice president and resident manager of Marathon Paper Mills of Canada, Marathon, Ont., has succeeded *H. P. KLINESTIVER* as vice president and general manager of the company, at Toronto head office. Mr. Klinestiver, in charge of the woods operations since the company was established, will continue in a consulting capacity. *P. V. LeMAY* has taken over management of the woodlands division on the Pic River, and *GRANT ROSS*, with the organization since the mill was first on the drawing boards, and former engineer and mill manager, has been made both mill and townsite manager.

SOME OUTSTANDING FORESTERS in the British commonwealth attended the Commonwealth Forestry Conference in Ottawa, Canada and later planned to visit the west coast. They include *LORD ROBINSON*, chairman of the conference, and *A. H. GOSLING*, director-general, representing the United Kingdom; *G. J. RODGER*, director-general of forests, Australia; *A. R. ENTRICAN*, director of forestry, New Zealand; *A. D. MITCHELL*, director of forestry, South Africa; *C. R. RANGANATHAN*, president of the Forest Research Institute and College, India; *S. A. VAHID*, inspector-general of forests, Pakistan.

L. L. G. BENTLEY, president of Howe Sound Pulp Co. and vice-president of Canadian Forest Products, Ltd., flew to Europe to look up some old customers and, if possible, discover some new ones. *C. M. MATHESON* and *L. M. SHERWOOD* of the Fraser Companies, Edmundston, N.B. and Montreal, visited Vancouver, B.C. recently.

PAUL KELLOGG, Montreal, for many years general manager of the Newsprint Association of Canada, recently stepped up to the board chairmanship of his own company, Stevenson & Kellogg, a statistical organization first with the paper business.

R. LINCOLN THIESMEYER, president of the Pulp and Paper Research Institute, and *F. L. MITCHELL*, general manager, Canadian Pulp and Paper Association, were visitors in British Columbia in September.

HECTOR CIMON, who has been vice president in charge of industrial relations for Price Brothers & Co., Quebec, has succeeded *G. F. LAYNE* as executive vice president following Mr. Layne's retirement at the end of August, according to announcement by President *A. C. PRICE*.

DR. J. EDWARDS, manager of the paper division, one of those principally responsible for development of the Curlator, has been named a vice president. *FABRE SURVEYER* has succeeded Mr. Cimon as secretary.

PERRY STRINGER is new steam plant superintendent of Dryden Paper Co. at Dryden, Ont., succeeding *FRANK WHITELY*, who had been with the company 23 years. Mr. Stringer was formerly a member of the Royal Canadian Mounted Police, probably the only Canadian pulp and paper man with that background. During the war he was a stoker petty officer with the Royal Canadian Navy. Woods department of Dryden Paper Co., Dryden, Ont., is now being managed by *NORMAN McMILLAN*, who has announced the appointment of *WILLIAM CUFF* as general woods superintendent.

DR. OTTO MAASS, professor of chemistry at McGill University who has been prominent in the affairs of the Pulp & Paper Research Institute of Canada, has been awarded the Chemical Institute award in recognition of his services to industry.

WESLEY CUTLER has joined Abitibi Power & Paper Co. in Toronto as public relations manager.

A. E. "DAL" GRAUER, president of British Columbia Electric Co., Vancouver, has been appointed to the board of directors of Canadian Chemical and Cellulose Co., the subsidiary of Celanese Corp of America responsible for the company's operations in Canada. *MAXWELL MACKENZIE*, formerly deputy minister of commerce for the Canadian government, is president of the company, with head office at Montreal, where *R. L. WELDON*, president of Bathurst Power & Paper Co., another member of the board, resides.

R. I. JORGENSON, Great Lakes Paper Co., Fort William, is the new chairman of the midwest section CPPA. *FRANK WOOD* of Marathon Paper Mills of Canada is past chairman; *HERMAN McLENAGHEN*, Abitibi's Mission mill, vice-chairman; *R. E. LEE*, Great Lakes Paper Co., secretary-treasurer.

LUCIEN G. ROLLAND, formerly assistant general manager, Rolland Paper Co., has been appointed vice-president and general manager, succeeding his father, *OLIVER ROLLAND*, who has retired as a vice-president although continuing a member of the board.

V. OLESKEVICH, assistant mill manager for Abitibi Power & Paper Co. at Smooth Rock Falls, has been elected chairman of the northeastern Ontario branch of the technical section CPPA.

LES BICKELL, chief chemist for Alaska Pine & Cellulose, Vancouver, B. C., with bleached sulfite pulp mills at Woodfibre and Port Alice, has been doing a lot of globe trotting in recent months and establishing records to boot. Traveling by air liner recently, he left Japan at 9:30 a.m. and arrived in Seattle at 10:30 a.m. the same day. Time differential had something to do with it. A few weeks earlier Mr. Bickell flew to London, but set no record that time.

PETER McGHEE, for many years plant manager at the Port Alice mill of B. C. Pulp & Paper Co., which became a part of the Alaska Pine & Cellulose holdings a year or so ago, has retired from active work for the company. R. H. *"BUCK" RICHMOND*, formerly assistant, has succeeded McGhee with *PAUL SPRINKLING* spare superintendent.

MARATHON OF CANADA PROMOTIONS

L. to r.: R. T. STEEDMAN, new Vice Pres. and Gen. Mgr., Marathon Paper Mills of Canada, Toronto; GRANT D. ROSS, named Mgr., Mill and Town Div. at Marathon, Ont., and P. V. LEMAY, Mgr., Pic Woodlands Div. at Port Arthur.

OCEAN FALLS PROMOTIONS

PROMOTIONS recently announced at Pacific Mills Ltd., Ocean Falls, B. C. (l. to r.): ALBERT SWANSON, Plant Supt.; JOHN DENHOLME, Paper Machine Room Supt., and JOHN BROWNHILL, Asst. Paper Machine Room Supt.

WINS TWO SAFETY AWARDS

DON C. PORTER (left), Mill Mgr., Longlac Pulp & Paper Co., Kimberly-Clark subsidiary at Terrace Bay, Ont., and FRED O. SOUGHTON (right), Services and Safety Supervisor—both having held those posts since the kraft pulp mill was built 4 years ago—were among plant execs who took bows when the mill was ceremonially presented two National Safety Council awards—the Industrial Conference Award of Merit for a frequency rate of 3.5 and severity rate of .11 in 1951 and also the Certificate of Achievement in the 1951 pulp and paper industry contest.

New Byron Jackson Plant in Canada

Byron Jackson of Canada, Ltd., is completing a new $1,000,000 manufacturing plant in the new Scarborough industrial section of Toronto, Ont., which will manufacture the complete line of B. J. centrifugal pumps. The plant will enable Byron Jackson to give more effective coverage of the rapidly growing pulp and paper industry in Canada.

Deferiet Foremen Honored

A "Standard of Excellence" award has been made to the St. Regis Foreman's Club, of Deferiet, N. Y., by the National Assn. of Foremen. The club is one of 16 in the country so honored.

3 new features

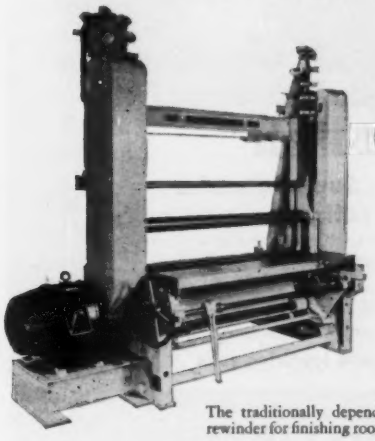
for improved roll quality and reduced maintenance cost

These three new design features of the Camachine Commander virtually eliminate vibration and provide for superior strip control:

1. **Riding Roll Drive:** Impregnated woven flat belts and crowned pulleys drive the riding roll from *both* ends. Adjustable tension apparatus automatically establishes *equal* tension on *both* riding roll belts, and permits variation of riding roll torque to suit the material characteristics.
2. **Rewind Shaft Bearings:** The rewind shafts are mounted in ball thrust bearings which are contained in sliding carriages in the vertical guide bars. The carriages are fitted to eliminate end play of the shafts.
3. **Rewind Drum Drive:** Positive toothed belts, which require no lubrication, are used to transmit driving power to the front and rear rewind drums.

For complete details on the new Camachine Commander write for Bulletin 2000.

CAMERON MACHINE CO. • 61 Poplar Street, Brooklyn 2, N. Y.



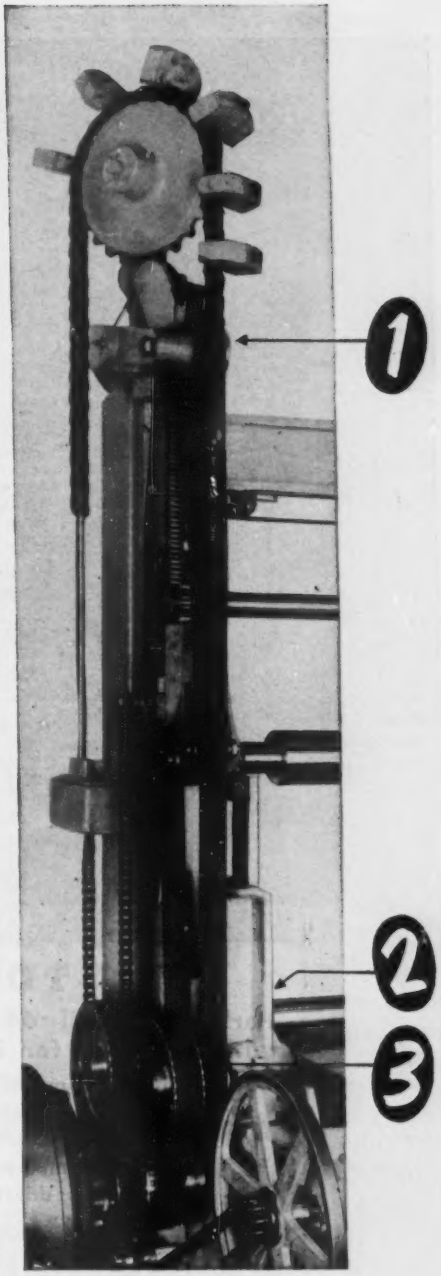
The New CAMACHINE COMMANDER TYPE 10

• Speeds up to 2000 FPM

• Widths from 42" to 82"

• Rewind dia. up to 40"

The traditionally dependable heavy-duty slitter-rewinder for finishing rooms and converting plants.



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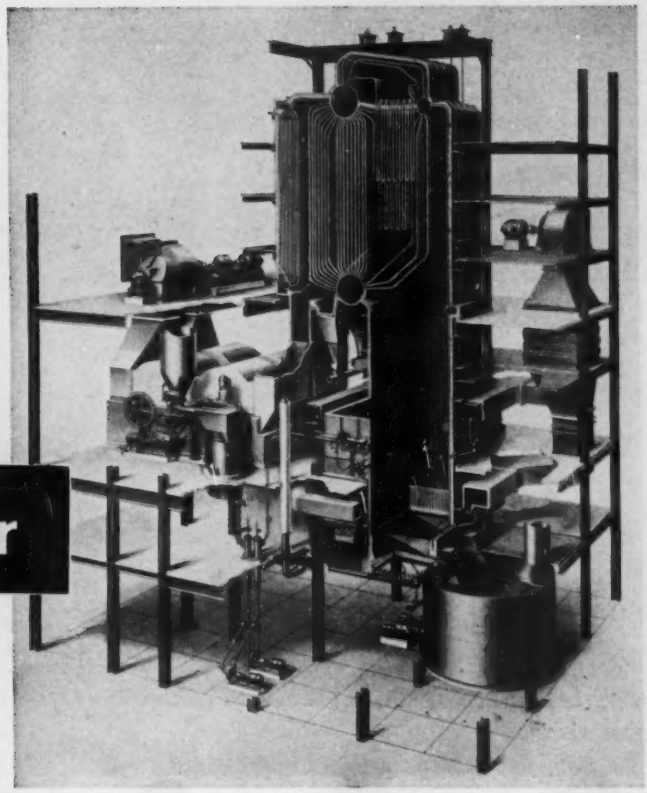


Rayonier selects C-E recovery units

Designed for the production of chemical cellulose, the new mill of Rayonier, Inc., located at Jesup, Ga., is the focal point of its multimillion dollar expansion program. When completed in 1954, this streamlined plant will up Rayonier's annual production of cellulose by 87,000 tons.

Two C-E Recovery Units will be installed in this mill. Each unit is designed to burn black liquor—producing steam at 625 psi and 760 F.

Rayonier chose C-E Recovery Units because of their service-proved reputation for reliability, efficiency and operating economy. Their choice adds still another name to the ever growing list of leaders who select C-E.

COMBUSTION ENGINEERING—SUPERHEATER, INC.

200 Madison Avenue • New York 16, N. Y.

Canada: Combustion Engineering Corporation, Ltd.
Montreal, Toronto, Vancouver, Winnipeg

B-622

PRODUCTS FOR THE PAPER INDUSTRY INCLUDE RECOVERY UNITS, STEAM GENERATING, FUEL BURNING AND RELATED EQUIPMENT; ALSO PRESSURE VESSELS
Los Angeles—510 West 6th Street, San Francisco—116 New Montgomery Street; Seattle—Skinner Building

KIMBERLY-CLARK RECORD

C. G. EUBANK, Mill Manager, Memphis, Tenn. Division, of Kimberly-Clark Corp., is shown here at left, extending congratulations to JOHN JACK, Day Foreman of the Kleenex Section of the Mill for setting a new company record for safety days in converting sections. In background, WILLIAM FISH, Safety Supt. of the Mill, and NORMAN JANSEN, production Superintendent, look happy, too. Between Sept. 24, 1947 and Feb. 19, 1952, employees in the Kleenex Section of the Memphis Mill worked 1,958,735 safe man-hours and 1,602 consecutive safe days to set new corporation records.

Maine Foundation

John B. Calkin, secretary of the University of Maine Pulp and Paper Foundation, announced new subscriptions for student scholarships and research at the university.

Company scholarship underwriters were the National Association of Waste Material Dealers, Inc., New York, and Scott Paper Co., Chester, Pa.

New company members are the Eastern Corp., Bangor, Me.; Improved Paper Machinery Corp., Nashua, N.H.; and Samuel M. Langston Co., Camden, N.J.

Special gifts were from Cameron Machine Co., Brooklyn, N.Y.; Dennison Manufacturing Co., Framingham, Mass.; and Niagara Alkali Co., New York.

Eastern Advertising

Unusual advertising campaign for 1952 has been announced by Ken Henderson, advertising manager, Eastern Corp., Bangor, Me. Grantland Rice, considered as the dean of American sports writers, will choose for Eastern the all-time all stars from the nation's ten most popular sports.

New Link-Belt Screens

Consolidated Water Power & Paper's Appleton, Wis., sulfite pulp mill has installed two Link-Belt traveling screens in the Fox River which will supplement existing coarser fixed screens, to catch more bark, log waste and other flotsam for fuel use.

Another Lang Lands In Pulp and Paper Industry

The first of the second generation of the Lang "pulp and paper" family has landed in the industry!

G. W. (Bill) Lang, son of Lloyd (Curly) Lang, has finished two years of engineering with Beloit Iron Works and has joined the engineering department of Thilmany Pulp & Paper Co., Kaukauna, Wis. He is a graduate of the University of Wisconsin.

His father, Lloyd Lang, is doing private consulting work now, from his home at 521 North Broadway, DePere, Wis. He was recently general superintendent of Green Bay Pulp & Paper Co., helping start up that new semi-chem plant, and before that he did pulping research and development for Kimberly-Clark Corp. and Crossett Paper Mills.

Bill Lang's uncle, Lyle Lang, was recently promoted to general superintendent at Bowater's Newfoundland Pulp & Paper Mills, Cornerbrook, Nfd., where he had long been sulfite superintendent.

A younger uncle, Stuart Lang, is a technical executive at Scott's Marinette, Wis., mill.

Joins Weyerhaeuser staff

D. H. Seixas, formerly associated with the American Can Co., as supervisor of paper container and shipping supplies for Pacific Division Purchasing, is now located at Longview, Wash.

Mr. Seixas has joined the pulp division, Weyerhaeuser Timber Co. as sales representative. His primary responsibility is the sale of bleached kraft paperboard from the company's new machine at Longview, Wash.

Typical wool showroom, where buyers make their selections.

Photographs courtesy of Wool Bureau, Inc.

Out Where Huyck Felts Begin

First, the fleece. From 1,500 classified types, buyers choose only those special wools that meet the exacting requirements of Huyck Felts. In the principal wool-growing countries of the world this discriminating selection goes on. For these must be just certain wools, rare and costly.

In they come, to the great wool warehouses at Rensselaer, New York. From this vast supply, skilled sorters select the grades specified for each type of felt, then blend them for the precise task the felt is to perform on the paper machine.

This is the first, and only the first step in making the famous Huyck felts which for 82 years have rendered such essential service to the pulp and paper industry.

KENWOOD TEXTILE PRODUCTS

HUYCK *Felts*

F. C. Huyck & Sons – Kenwood Mills – Rensselaer, N. Y.

Pacific Coast Representative: Pacific Coast Supply Co., Public Service Building, Portland, Ore., 343 Sansome St., San Francisco, Calif.

Syracuse Reorganizes

Reorganization of the College of Forestry, New York State University, Syracuse, N.Y., has resulted in the establishment of three divisions embracing 10 of its 12 academic departments, including two new departments. New divisions are physical sciences, with Dr. Edwin C. Jahn, director of research, as associate dean; resource management, headed by Prof. Herold C. Belyea; and biological sciences, with associate dean to be named.

The new departments are forest chemistry and forest economics, outgrowths of departments of pulp and paper technology and forest management. Dr. Jahn will head forest chemistry, Dr. William A. Duerr, formerly U.S. Forest Service, will head forest economics. New appointees to forest chemistry are Dr Michael Szwarc, from University of Manchester, England, and Dr. Vivian T. Stannett, a Mellon Institute Fellow.

NEW ALLOYS FABRICATING PLANT

C. W. Kellogg, Executive Vice President of Northwest Copper Works, Inc., announces completion of this new plant at 1303 N. River St. in Portland, Ore. It occupies 17,000 square feet on an entire city block, exclusive of the new ranch style office building. The firm specializes in design and manufacture of alloy metal products for pulp and paper mills.

An advertisement in PULP & PAPER is ALWAYS WORKING—in every state and every region where pulp and paper is made in North America and in 40 countries around the world!

Halltown, West Va., Mill Now Up to 100 Tons Daily

Halltown Paper Board Co., first mill in West Virginia, has recently added a No. 2 mill, housing a 6-cylinder rebuilt 90 in. trim Black-Clawson board machine with machine coating, suction return drum and top felt and 79 driers in three decks. Its 80 tons a day brings the mill output to 100 in liner board, news board, varieties of chip, book, news, litho and special papers.

Black-Clawson's *Messenger* describes the Halltown, W. Va., expansion in a recent issue. It reports a second Black-Clawson laminator is being added; that new Shartle-Dilts stock preparation features a continuous Hydrapulper, and slushing of stock for liner takes place in two new batch Hydrapulper units, followed by Shartle Duo-Cycling refining with central control. A No. 14 Cameron winder follows the rebuilt machine and 6 Shartle Selectifiers and four Miami jordans precede it.

H. P. Nelson is president of Halltown; D. M. Eyster, vice president; J. A. Eyster, secretary; W. S. Venable, treasurer, and Joseph O. Cain, purchasing agent and superintendent.

Big Expansion Planned By Canadian Industry

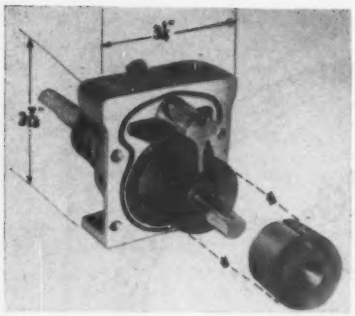
A survey by Canadian Pulp and Paper Association indicates new investment in the Canadian industry, 1950 to 1955, will exceed $600,000,000.

In dollar terms this is 70 per cent greater than growth between 1946 and 1950, and in volume terms, about 35 per cent greater. The industry was capitalized at about $750,000,000 in 1945; in 1950 at over $1,100,000,000. If plans materialize, it will be about $1,750,000,000 by 1955.

New Floc Plant For Brown Company

Brown Co., Berlin, N. H., has placed in operation, a new and "more efficient" floc plant with pulp and paper operations in Berlin. Construction began in 1951 and operations in April of this year.

Construction was under Norway Johnson, project engineer for Brown, and the plant will be operated by Superintendent, Earl Philbrick. Floc, from wood pulp, is a powdered substance, finding increasing use, particularly in packaging.



THIS INTERIOR VIEW OF TEFLON IMPELLER shows working of new "Allchem" stainless steel chemical process pump introduced by Eco Engineering Co., Newark, N. J. The pump is said to move fluids or emulsions without foaming or aeration, and Teflon material makes it chemically and biologically inert.

Marathon and Swift & Co. Win Advertising Awards

Marathon Corp. won a first prize and Swift & Co. won an honorable mention in a recent contest based on quality of advertisements conducted by the Chicago Federated Advertising Clubs. Advertising agency for both is Needham, Louis & Brorby.

New Barker

Pacific Mills, Ltd., which recently completed a $2,000,000 sawmill and woodhandling plant at Ocean Falls, has decided to install a 42 inch Hansel whole-long hydraulic barker, according to announcement by Paul E. Cooper, president.

Sydney Hansel, head of Hansel Engineering Co., Vancouver, B.C., and Seattle, is touring the southern states and will include on his itinerary Natchez, where International Paper Co. is putting in one of his barkers.

New Paper Grades in India

From S. C. Laharry, managing editor of the still young publication *Indian Pulp & Paper,* comes this interesting commentary:

"One of the mills in India has been experimenting with the production of coated paper and its production of art paper has had a good reception in the local markets. A mill in Orissa has under installation a fourth paper machine which came into full production during the year.

"Tribeni Tissues Ltd. originally contemplated the manufacture of cigaret paper but it is reported that the bulk of their production is being supplied to daily newspapers for their air mail editions. Even so, this is an innovation in India.

"The world war had opened out a new line to paper mills and others—the line of paper conversion—and the war years saw considerable quantities of waxed paper, Bituminized paper, Hessian-backed Bituminized paper and similar products turned out in India for the first time. Now the requirements in these grades are met almost wholly from home sources.

"The new mills that were under active construction unfortunately made little headway during the year. The Madhya Pradesh Government failed to come to an understanding with Messrs. Birla Brothers Ltd. in regard to the Nepa Mills designed to produce newsprint from hardwood and bamboo. It has now been decided to run the show as a Government scheme and production in 1953 is promised. The same Government had another paper scheme at Ballurpur, which, however has been made over to the Shree Gopal Paper Mills Ltd. Here also production is not expected before 1953.

"The demand for paper is thus very small indeed for a country with a population of about 350 millions, but the possibility of development is immense. This country recently held the largest elections in the world on the basis of adult franchise. Under the 5-year Plan of national development numerous schemes for mass education and improvement in public health, industry and agriculture are afoot. Even a small advance in these directions is bound to lead to higher demand for paper."

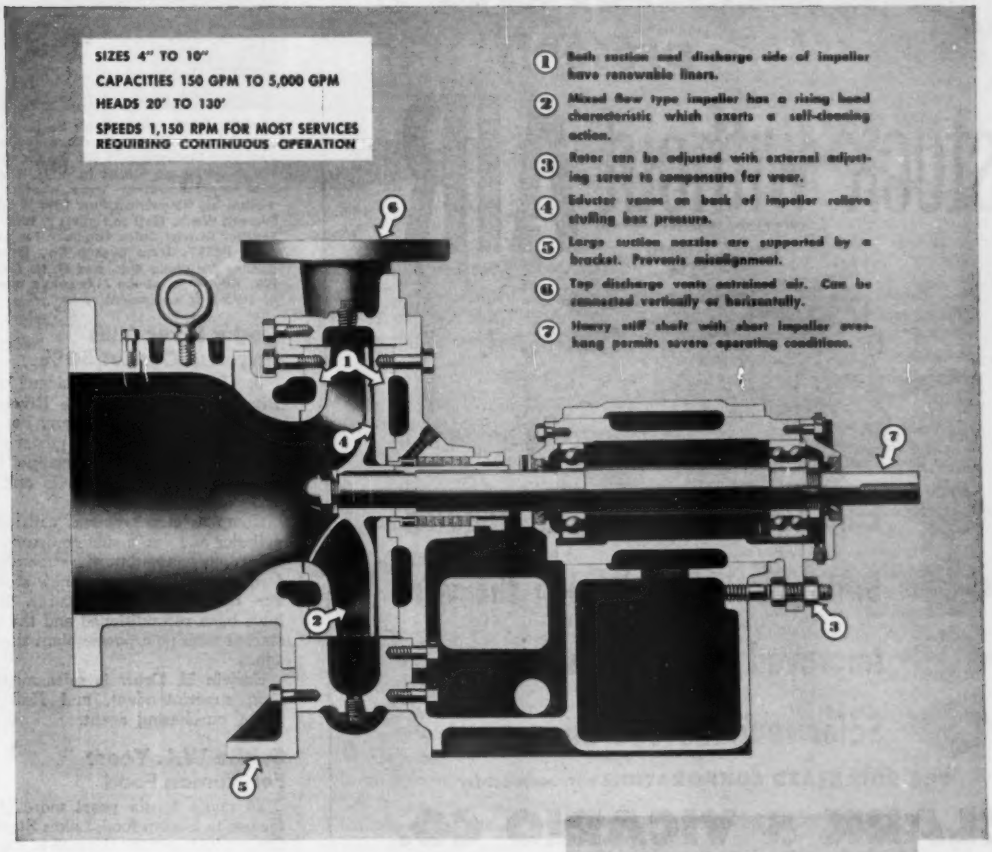
Everett Mill Scholarship

Everett (Wash.) Pulp & Paper Co. Division of Simpson Logging Co. is now participating in the Mark E. Reed Scholarship Foundation program which the Simpson Co. established in 1947, A. B. Moody, vice president and general manager of the division, announces. One of the eight Reed Scholarship awards of $750 for the 1952-1953 college term will go to Miss Phyllis Ellen King, of Snohomish, Wash. Miss King's father, Fred King, works in the Everett finishing room.

New Tall Oil Unit

A new tall oil deodorizing unit incorporating improved design features to give a higher quality product has been successfully put in operation at the Covington, Va., plant of West Virginia Pulp and Paper Co. The new unit was designed and erected by Rust Process Design Co., Pittsburgh.

Simplicity, long life, easy maintenance



You get them all with...

DE LAVAL

STOCK PUMPS

Look at the seven outstanding features shown in the cross-section and you'll see why De Laval type CS Stock Pumps stay on the job for years . . . trim maintenance costs. Stock flows freely through a large suction nozzle, an exceptionally large throat area and an unbroken streamlined volute. This minimizes clogging, contributes to high hydraulic efficiencies, lowers inlet velocities, permits the handling of high stock densities with low submergences and prevents de-watering of free stock.

Write today for Bulletin 1100 giving full application and specification data.

DE LAVAL *Stock Pumps*

DE LAVAL STEAM TURBINE COMPANY
813 Nottingham Way, Trenton 2, New Jersey

DL-149

An Electrical Analyzer For Pipeline Networks

Computation of the probable flow and pressure of water in each pipe of a pipe network system may be quite laborious. Because of this fact, studies of water distribution systems have often been hindered. A direct-reading electric analyzer is now available which eliminates all calculations beyond a simple change of scale. A pulp mill engineer says it could eliminate a lot of "cut and try" work in new mill construction. The first analyzer was invented and designed by Malcolm S. McIlroy now at Cornell University. The Standard Electric Time Co. undertook the manufacture and sale of the McIlroy Pipeline-Network Analyzers. The first production unit has gone to the Division of Industrial Research, State College of Washington, Pullman, Wash. There it will be available to industry.

Previous attempts have been made to develop electrical analyzers to solve network problems but since the volt-ampere characteristic of an ordinary resistor is very different from the nonlinear head low-flow characteristics of a pipeline, the earlier attempts involved trial and error procedures. The McIlroy Network Analyzer employs nonlinear resistors which represent pipelines in an analogous electrical circuit so that a rational law or acceptable emperical formula relating head loss to flow rate is properly simulated by the relation between voltage across the resistor and current through it.

Dr. McIlroy has made a study of the accuracy of the analyzer and he has found that the accuracy is well within the limits of the accuracy of the other variables involved in a distribution system.

Inquiries about the analyzer at Washington State College should be addressed to the Division of Industrial Services, State College of Washington, Pullman, Wash. At the division it was said the charge made for the use of the machine will be nominal and based on the time required for setting up the problem, as one factor, and actual time of machine use as another. Quotations to an inquirer will be made upon information concerning nature and extent of the problem.

Rocky River Mills Increase Output 50%

J. C. Plantefaber, president of Rocky River Paper Mills, Three Rivers, Mich., announces that his company has from 40 to 60 tons per day on a modernized and rebuilt 80 in. cylinder machine. Products are boxboards of all kinds and colored and coated specialites.

Complete new wet end with additional cylinder and vat, a suction drum roll, new consistency regulators, streamlining of jordans and beaters, and new stock boxes are the main new features. Buildings have been reconditioned and the program started with new power plant three years ago.

Corwin H. Drew is sales manager, F. Fox, superintendent, and Neil Plantefaber, purchasing agent.

Sulfite W.L. Yeast For Human Food

To make torula yeast more attractive for use in human food, Lakes States Yeast Corp. which adjoins the mill of the Rhinelander Paper Co. has installed new equipment and improved processing increasing nutritional value and flavor of the sulfite waste liquor product. Two German-made centrifuges costing more than $10,000 apiece, which refine the yeast to a new high, are included. Jesse M. Holderby, vice president and general manager of the yeast firm, said: "We have proved beyond all doubt that torula yeast is a wholesome, valuable food, and that we can make it successfully from sulfite liquor. Now we are trying to broaden our market. At no time since we began operation late in 1948 has the total U.S. animal feed demand for torula yeast greatly exceeded output of the Rhinelander plant. If we succeed, as we expect, in developing new uses, it should make the process economically practical for some other Wisconsin mills."

Another New Paper Product—Baby Diapers

A new paper product that looks like it is going to come out of the laboratory stage and make good:

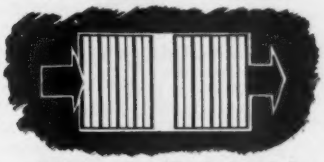
A 30 lb. bleached white kraft paper treated with polyethylene on one side; cotton linters blown onto the other side. For hospital baby diapers.

These 10 BIG Features Make Western Precipitation COTTRELLS Outstanding in the Paper Industry

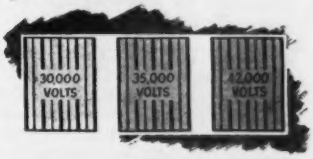
When considering COTTRELL Equipment for salt cake recovery, or any other application in the paper industry, remember this . . . *Western Precipitation Corporation not only pioneered the first commercial application of* COTTRELL *equipment made in any industry, but also pioneered the first application of* COTTRELL *equipment in the paper industry.*

Among the vitally important advantages found in Western Precipitation COTTRELLS, the following are particularly important in paper mill installations ...

1 Sustained Year-After-Year Efficiency: The recovery efficiency of Western Precipitation COTTRELLS does not fall off in service. All parts are of ample design to maintain guaranteed over-all efficiency year-after-year —not for just a single acceptance run.



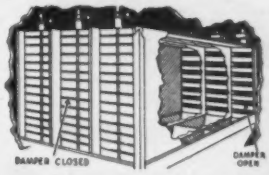
2 Higher Recovery: The horizontal flow design of Western Precipitation COTTRELLS eliminates collected material falling countercurrent to incoming gas stream. This assures higher recovery, minimum resuspension of recovered material in gas stream.



3 Maximum Performance: Horizontal flow of Western Precipitation COTTRELLS permits use of multiple electrical sections so that voltage in each section can be varied to dust loading for maximum recovery without arc-over or electrical breakdowns.

4 Lower Over-all Cost: When comparing COTTRELL costs, be sure to compare total *installed* cost, including duct work.

5 Simpler Maintenance: Because all interior parts and electrode systems are readily accessible, Western Precipitation COTTRELLS are far easier to maintain and service. Saves "down" time, saves repair costs.



6 Greater Adaptability: Horizontal flow design permits use of multi-vane dampers in multiple-unit installations. Thus, one unit can be shut off completely to permit maintenance operations without closing down entire Precipitator. Also, the dampers can be used in slightly-closed position to assure more uniform gas distribution.
On single-unit installations, chain curtains assure uniform distribution of gases. Curtains are easily kept clean by shaker mechanisms provided.

7 "V"-Shaped Hoppers: Horizontal design permits use of continuous "V"-shaped hoppers for collecting recovered material. Steeply-sloped walls in this type of hopper prevent build-up or bridging of recovered material.

8 Space-Saving Compactness: Not only do their horizontal design permit maximum compactness in Western Precipitation COTTRELLS, but various sections of a unit can be arranged for indoor installation in space above cascade evaporators, thus utilizing space otherwise wasted.

9 All-Weather Construction: Western Precipitation COTTRELLS are built for both indoor or outdoor installation, and this organization has had extensive experience with special construction to prevent excessive corrosion in rigorous northern climates.

10 More Extensive Experience: Since pioneering the commercial application of COTTRELL Precipitators over 42 years ago, Western Precipitation has consistently led in developing one unique advancement after another. Such features as 4-Point Electrode Suspension that eliminates misalignment of electrodes and reduction in recovery efficiencies . . . Unusually Rugged Rapper Design that assures proper cleaning of electrodes . . . Extensive Experience with all types of electrode designs . . and many other advantages assure you the ultimate in COTTRELL design and efficiency when you bring your recovery problems to Western Precipitation engineers.

Without obligation our nearest representative will gladly make Western Precipitation COTTRELL *expenence available to you for solving your particular recovery problem. Why not contact him today?*

IMPORTANT! In addition to COTTRELL *Electrical* Recovery equipment, Western Precipitation Corporation also designs and installs the well-known MULTICLONE *Mechanical* Collectors for hogged-fuel fired boilers. These units are unusually compact, highly efficient and can be readily fitted into existing plants at minimum installation costs. *Write for details!*

Send for Helpful Literature

WESTERN Precipitation CORPORATION

ENGINEERS, DESIGNERS & MANUFACTURERS OF EQUIPMENT FOR COLLECTION OF SUSPENDED MATERIALS FROM GASES & LIQUIDS

Main Offices: 1017 WEST NINTH STREET, LOS ANGELES 15, CALIFORNIA
CHRYSLER BLDG., NEW YORK 17 • 1 LaSALLE ST. BLDG., 1 N. La SALLE ST., CHICAGO 2 • HOBART BUILDING, SAN FRANCISCO 4, CALIFORNIA
PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL

Personals

NORTHEAST NOTES

LEWELLYN D. NICOLSON, who was Deputy Director of NPA, Pulp, Paper and Board Div., left recently to join the executive forces of National Vulcanized Fiber Co., Wilmington, Del.

GEORGE C. MACDONALD is sales promotion manager of Brown Co. and Brown Corp., a newly-created department in coordination with Brown's advertising division. He has been with Brown since 1928, and will make his headquarters in Boston.

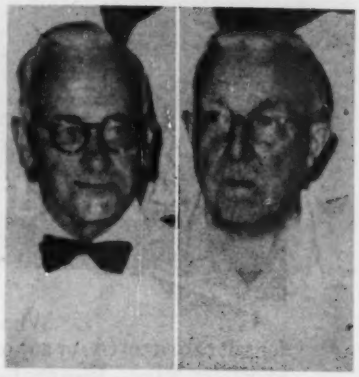
PROFESSOR LYLE C. JENNESS, head of the department of chemical engineering at the University of Maine, and *JOHN B. CALKIN*, director of the Maine department of industrial cooperation, were speaking at the Waste Paper Institute in New York.

FLOYD L. TRIGGS, advertising manager of Riegal Paper Corp., was named chairman of the Exhibitors' Advisory Committee for the 22nd A.M.A. National Packaging Exposition to be held in Chicago in April, 1953.

DR. FOSTER D. SNELL, president of Foster D. Snell, Inc., will be presented with the Fourth Annual Honor Scroll Award of the New York Chapter of the American Institute of Chemists at a dinner meeting in the Commodore hotel, New York City, May 22. The Scroll is given for "outstanding contributions to the profession of chemistry."

HARVEY P. HOOD, dairy man of Boston, and *JOHN M. KINGSLEY*, financial officer of Henry Phipps estates, Greenwich, Conn., have been elected directors of International Paper Co.

SMITH & WINCHESTER "VETS"



WALTER ABBE JR. (left), President, with 35 years service himself, presented traveling bag to CARL SUNDELL (right), who in 50 years with THE SMITH & WINCHESTER MFG. CO., South Windham, Conn., has seen many a paper mill finishing room and bag plant, setting up trimmers and bag machines. He was honor guest at a company celebration.

GEORGE NICHOLAS HOOVER, Jr. assistant manager in charge of production of West Virginia Pulp and Paper Co., Mechanicville, N.Y. has been honored as "Papermaker of the Month" in a recent issue of the Noble & Wood Machine Co.'s "Agitator." Mr. Hoover began his papermaking career at the Mechanicville mill in 1922, immediately after graduating from high school, as helper in the beater room. He completed night courses at Rensselaer Polytechnic Institute and in 1948 attended the Advanced Management Program at Harvard. His father, George N. Hoover, Sr., now retired, was associated with West Virginia's Luke, Md., and Covington, Va., mills prior to becoming assistant manager of the Mechanicville mill, the position now held by his son.

RICHARD A. BERGER has been named administrative assistant for Kraft Bag Corp., New York City, to handle multiwall sales for the company. He was 11 years with St. Regis.

WILLIAM J. ALFORD, III, president of Alford Cartons, Ridgefield Park, N.J. and executive vice president of the Continental Paper Co. at the annual commencement of Bergen Junior College, was presented with a citation by the trustees for having pioneered in the development of modern packaging methods.

FRANK C. WILLIAMS, of Ridgewood, has been elected vice president of Alford Cartons. He has been sales manager of the company since 1949.

ERNEST A. CRAWFORD, engineering supervisor of the Continental Paper Co. has been selected president of the Bergen County Chapter, New Jersey Society of Professional Engineers.

GEORGE BURRUS has been elected vice president of United Board & Carton Corp. Mr. Burrus was formerly manager of the firm's plants at Urbana and Springfield, O. and Syracuse.

May I borrow your tux, Joe?

That's ridiculous. The chap in the chair wears a "36 Regular"... the lank lad in the doorway, to get a *good* fit, probably has to have his suits tailor-made.

That's why Anheuser-Busch offers you both a complete line of *standard* starches and corn products for paper mill use... and also provides a *special-formula* corn product, tailor-made for particular requirements. To help you determine which *is* best for each process, the services of the Anheuser-Busch technical and research departments are yours for the asking.

And, standard *or* special, all products bearing the Anheuser-Busch name assure you of the dependability and uniformity that have *built* our world-famous reputation for highest quality.

FURTHER INFORMATION PHONE OR WRITE

ANHEUSER-BUSCH, INC.

CORN PRODUCTS DEPARTMENT

ST. LOUIS, MO.

INDUSTRY NEWS

In Capsule Form for Reader-in-a-Hurry

Israel's First Mill Taking Shape

Machine room, finishing room and office for the new 80 tons a day American Israeli Paper Mills Ltd., of Hadera, Israel, has taken shape with structural steel up and equipment goes in this fall and winter. Israel's first paper mill, it will make 60% of the country's needs outside of news and tissue. Its products will be kraft bags, writing and tablet. One 750 gpm. well has been dug; another may be required.

Sigurd Solvason is project manager for Merritt-Chapman & Scott, contractors for the complete project. Harry A. Thompson is manager of design.

Dee, Ore., Hardboard Plant

Oregon Lumber Co. has authorized addition of heat treating and oil tempering unit at its Dee, Ore., hardboard plant according to William Runckel, manager of hardboard division, enabling the company to produce both regular and tempered hardboard.

Another Board Plant For Pacific Coast

A $3 million loan has been made by Travelers Insurance on 400 million feet of standing timber, sawmill and securities belonging to Pilot Rock Lumber Co., Pilot Rock, Ore., for continuation of construction of a $5,000,000 board plant at Pilot Rock to be known as Oregon Fibre Products, Inc. This plant is to produce both soft and hardboard, including acoustical tile, sheathing and roof insulation, and is rated at 300,000 sq. ft. per day. Officers are Elmer C. Kerns, president; A. W. Moltke, vice president; C. N. Souther, secretary. L. H. Hoffman Co., Portland, Ore., are contractors.

First Shartle-Built Beatapulper at Interstate

First Beatapulper built by Shartle Bros. under the new Black-Clawson (Shartle) licensing agreement with Cowles Co. of Cayuga, N. Y., has been installed at Miamisburg Box Board division of Interstate Folding Box Co., Miamisburg, Ohio.

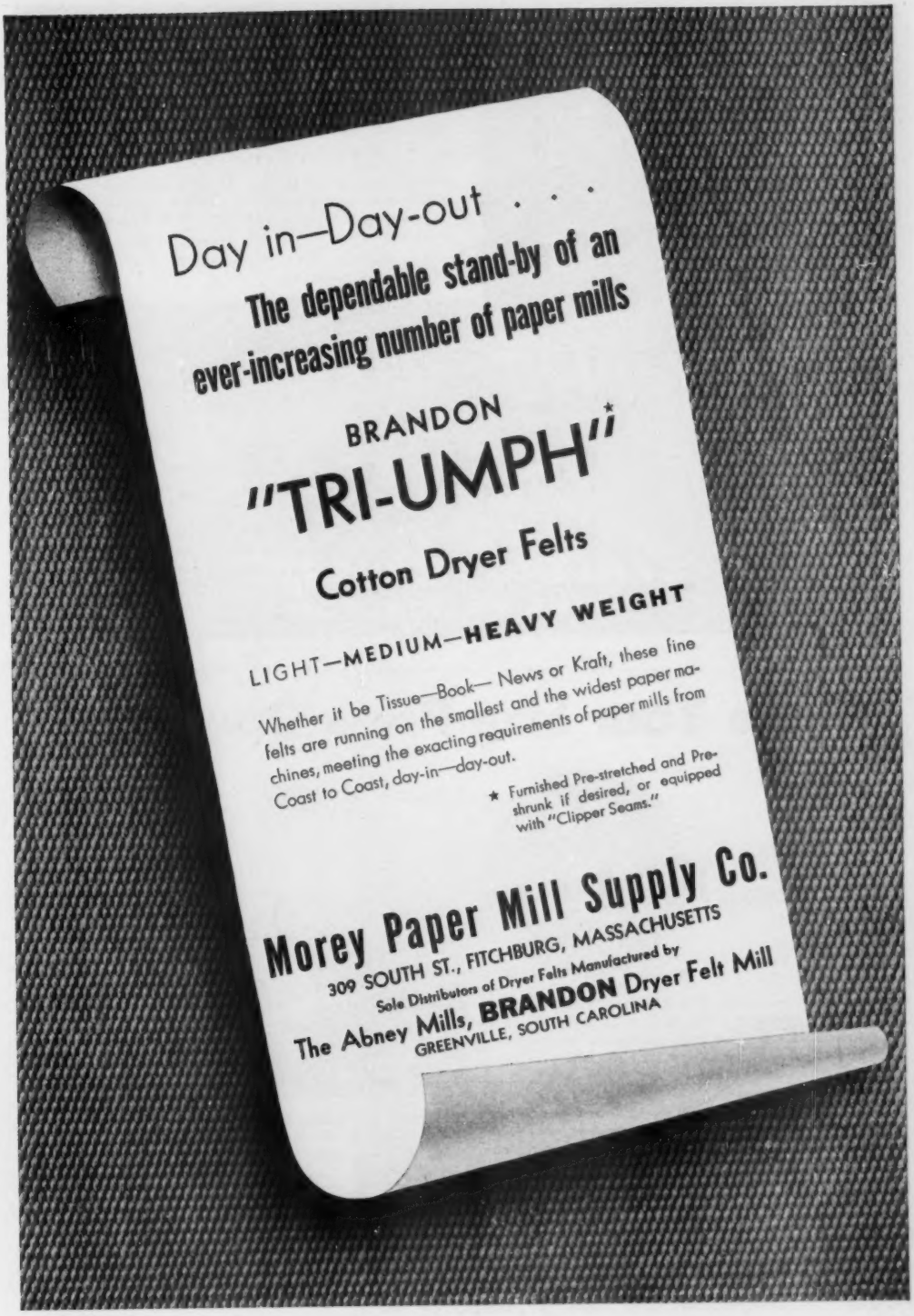
The Beatapulper pulps, defibers and refines paper stock in one operation. The unit at Miamisburg is a 10 SD8 size which has replaced beaters previously used in the top and underliner systems. This side drive unit processes 2000 lb. batches of clean furnish on a 60 minute time cycle at 5% consistency.

Free Health Exams

A program of company sponsored and financed physical examinations for 1,800 employes has been inaugurated at Nekoosa-Edwards Paper Co., Port Edwards, Wis. The plan calls for examinations by local physicians on company time. An important feature is regularly-scheduled follow-up medical checks, and personal consultations with company nurses.

St. Lawrence Merger

To simplify its corporate structure and for efficiency, St. Lawrence Corp., Montreal, will combine operations of its three subsidiaries—St. Lawrence Paper Mills Co., Lake St. John Power & Paper Co. and Brompton Pulp & Paper Co. into the parent company. St. Lawrence Corp. itself will be transformed into an operating company.


Day in—Day-out . . .
The dependable stand-by of an ever-increasing number of paper mills
BRANDON
"TRI-UMPH"*
Cotton Dryer Felts
LIGHT—MEDIUM—HEAVY WEIGHT
Whether it be Tissue—Book— News or Kraft, these fine felts are running on the smallest and the widest paper machines, meeting the exacting requirements of paper mills from Coast to Coast, day-in—day-out.
* Furnished Pre-stretched and Pre-shrunk if desired, or equipped with "Clipper Seams."
Morey Paper Mill Supply Co.
309 SOUTH ST., FITCHBURG, MASSACHUSETTS
Sole Distributors of Dryer Felts Manufactured by
The Abney Mills, BRANDON Dryer Felt Mill
GREENVILLE, SOUTH CAROLINA

WE APOLOGIZE to these gentlemen: SVEN FAHLGREN (left) and OLIVER FROGNER (right), whose pictures were regrettably switched last month in makeup of this magazine. Mr. Fahlgren is Sales Engineer for Bird Machine Co. and wrote the reviews on kraft papers at the Superintendents meeting which were published in September. Mr. Frogner is in charge of Power Dept., Consolidated Water Power & Paper Co., Appleton, Wis., where he worked on sulfite liquor burning trials reported in that issue.

CANADIAN APPOINTMENTS

EUGENE DE LUCA (left), who has been appointed Assistant to Gen. Mgr. for Alaska Pine & Cellulose Co. Ltd., and R. H. (BUCK) RICHMOND (right), named Plant Mgr. at Port Alice, B. C. mill of same company. Mr. De Luca, whose offices will be in Vancouver, B. C., under Gen. Mgr. Les Cominson, came from Irving Pulp & Paper, St. John, N. B., where he was in charge of a kraft mill and directing expansion. Before that he was with Can. International and Fraser. Joe Fraser has been named Plant Supt., and Paul Sprinkling, Spare Supt., at Port Alice.

Sidney Roofing & Paper Co.

SIDNEY ROOFING & PAPER CO. at Victoria, B.C., has developed a method of applying hot asphalt direct to the dryer section of one of its machines producing a special type of paperboard for packing peat moss.

The asphalt-covered sheet passes to the calender and reel and then to the slitter section where it is slit, creased and cut into required lengths. This type of covering has been welcomed by the peat industry because it is moisture resistant and prevents accumulation of dust.

Twelve new dryers have been installed on the Sidney company's No. 3 roofing felt machine, resulting in an increase in production of about 35 percent. The machine has been inclosed by a new Ross Engineering Co. hood.

News and Notes from ▣ ▣ ▣

EQUIPMENT AND SUPPLY COMPANIES

GENERAL ELECTRIC has announced a new bulletin on fractional-horsepower gear-motors listing 61 standard models. The bulletin outlines a method for determining correct horsepower requirements with the use of a pipe wrench and fish scale. It is complete with descriptions, drawings, charts, dimension tables, and has a section on maintenance pointers.

AMERICAN CYANAMID CO. announces appointment of Richard C. Ruffer as manager of rosin sizes, gum and tall oil for its Valdosta, Ga., plant. He will also have charge of cyanamid operations at Pensacola, Fla., and DeQuincy, La. Mr. Ruffer's experience with paper chemicals includes work with Mead Corp., and seven years' in production plants of Cyanamid. Thomas Pacey, Jr., formerly at Valdosta, will devote his full time to Cyanamid plant at Georgetown, S.C.

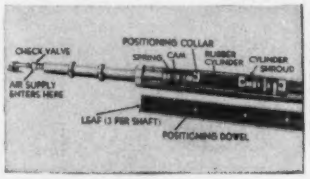
J. E. RHOADS & SONS, manufacturers of leather belting, is celebrating its 250th anniversary. Company was founded in 1702 by Joseph Rhoads. There has been a direct line of descent from father to son in the ownership and management of the firm for eight generations. Present representative of the eighth generation is John B. Rhoads, a partner of the company in charge of finances.

E. C. WOLFERZ, manufacturers of alloy equipment, have recently issued a special bulletin on design and fabrication for the pulp and paper industry. Illustrated are designs for special sections such as elbows and tees; stock and white water lines; bleach plant, digester and recovery piping; and Dirtec and Vortrap piping, headers and fittings. Copies of the bulletin may be obtained by writing the company at 20 Park Street, Belleville, N.J.

GENERAL ELECTRIC CO. has a bulletin announcing a new indicator designed to measure differential voltage as well as amperage, speed, pressure, and other quantities which can be converted to voltage. Basically a high-resistance precision voltmeter containing an electronic amplifier, the new device features a self-balancing circuit said to possess a high degree of stability and freedom from drift. It measures a 0.001-30 volt differential of two input voltages ranging from 1-400 volts, provided they do not differ more than 300.1. The bulletin can be obtained by writing General Electric Co., Schenectady 5, N.Y., specifying GEC-892.

OHIO KNIFE CO. is building an extensive new plant in connection with its works in Cincinnati, O.

CHAIN BELT CO. is now occupying its new administration building, located at 4701 W. Greenfield Ave., Milwaukee, Wis. For the past 50 years, the firm had its executive headquarters at 1600 W. Bruce St., Milwaukee.



First Reported Development

First reported in PULP & PAPER last year as a new development in this industry, this new MURCO-COLLARD Pneumatic Collapsible Shaft is now offered by D. J. Murray Mfg. Co., Wausau, Wis. Easily positioned, it is air-expanded and collapsed by valves and adapted to winding or unwinding paper without mandrels, chucks, wedges, etc. It was developed in a Washington mill.

Hydraulic Machinery Makes Fulton Roll Press

Walter A. Gartner, president of Fulton Iron Works, St. Louis, Mo., announces that Hydraulic Machinery Co. Ltd., 1972 Tansley St., Montreal, Canada, is licensed to build and handle sales in Canada of the Fulton roll press, a continuous bark dewatering machine, also used for deliquoring knots and tailings and on other fibers. A. E. G. Madley is president of Hydraulic Machinery.

J. O. ROSS ENGINEERING CORP., 444 Madison Ave., N.Y. (also branches) offers a new series of bulletins explaining the real meaning of Air Processing as applied to the industry "Many associate Air Processing with Air Conditioning and fail to realize the almost countless ways in which air is treated, handled and controlled to improve production and quality of finished products in all major industries," says its announcement.

RAYBESTOS-MANHATTAN, INC. announces opening of a new Houston, Tex. warehouse at 3012 Canal St. which offers larger quarters with ample stocking facilities for servicing the expanding Gulf Coast industrial area. *WEBSTER-ROBINSON MACHINERY & SUPPLY CO., INC.* is the new distributor of belting, hose and other industrial rubber products in Tacoma, Wash.

STAUFFER CHEMICAL CO., N.Y. announces appointment of John Crowther as assistant sales manager. He has been with the company 7 years and was formerly director of Eastern Division research, Chauncey, N.Y. Mr. Crowther is a well-known chemical engineer. He was a major in the U.S. Air Force, Headquarters, Europe Mr. Crowther is married, has 3 children and lives in Old Greenwich, Conn.

OLIVER UNITED FILTERS INC., offices in New York, Chicago and Oakland is releasing a new bulletin (No. 701-R) describing their line of Drum Type and American Disc Type Savealls.

D. J. MURRAY MANUFACTURING CO., Wausau, Wis. announces that a new folder on "Grid" Unit Heaters is being issued.

GENERAL AMERICAN TRANSPORTATION CORP., 135 So. LaSalle St., Chicago has elected W. J. Stebler to the vice presidency of the corporation.

YARNALL-WARING CO. Philadelphia, manufacturers of steam plant equipment, was host at a recent Open House to 850 employes, friends, customers, distributors and suppliers. A series of conducted tours through the expanded plant and new office buildings were featured.

RUSSELL T. BRANCH, president of *STONE & WEBSTER ENGINEERING CORP.*, received an honorary degree of doctor of engineering recently from Stevens Institute of Technology.

SAMUEL C. ROGERS & CO., 183-205 Dutton Ave., Buffalo 11, N.Y announces introduction of their latest medium duty knife grinder, the NL grinder. This new automatic all steel welded cabinet base machine is particularly adapted to the fast accurate care of rag cutter knives, trimmers, light chipper knives and many others. Further details available by contacting Rogers & Co.

THE BRISTOL COMPANY, Waterbury 20, Conn., issued an addition of round-chart recorders and automatic controllers to their line of electronic Dynamaster potentiometers and bridge instruments. Information is contained in their bulletin P1245.

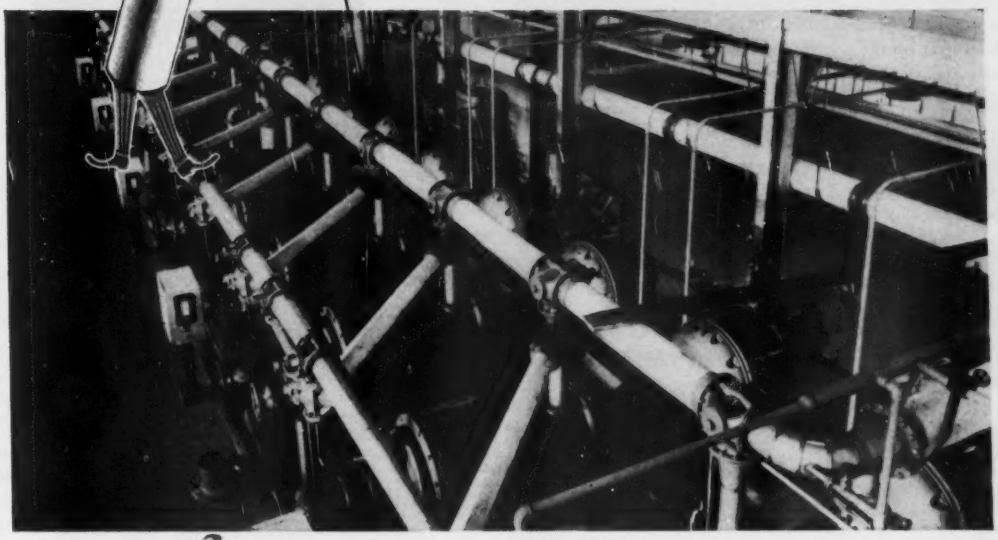
ALLIS-CHALMERS MFG. CO. has purchased the plant of *VICTOR ELECTRIC PRODUCTS, INC.* in Cincinnati, Ohio, according to J. L. Singleton, vice president in charge of the firm's general machinery division.

DR. K. W. COONS, head of the department of chemical engineering at the Univ. of Alabama, has temporarily been serving *GOSLIN-BIRMINGHAM MFG. CO.* on a full time consulting basis.

BEARING SALES & SERVICE, Inc., representing SKF, Timken and other lines in Pacific Northwest, has moved into this new home in Portland, Ore.

Pipe-fitter Pete says:

"For process lines that stay cleaner longer...



...use Transite Pipe"

If you're looking for process lines that won't discolor paper stock . . . and require only a minimum of attention for cleaning or maintenance . . . Transite Pipe may be the practical answer to your problem.

Like many leading paper mill operators, you'll probably find that Transite Pipe is money-saving insurance against these production problems—and for three good reasons:

It resists corrosion—Made of asbestos and cement by a special Johns-Manville process, Transite is a dense, non-metallic pipe that combats corrosion. It has exceptional resistance to such chemical agents as mild alkalis and acids that often cause deterioration in other pipe materials. Moreover, because Transite cannot rust, it protects paper stock from discoloration.

It reduces sliming—Service records in leading paper mills show that Transite Pipe stays cleaner longer. Its unusual ability to resist sliming reduces shutdowns for cleaning—means a minimum of pipe line maintenance.

Its capacity stays high—Transite is inherently immune to tuberculation (a common form of internal corrosion) . . . therefore its original high carrying capacity *stays* high. Thus, pumps can be operated at higher efficiencies—pumping costs, as a result, remain low.

Complete Transite Pipe systems, including couplings and Streed Transite Lined Fittings, are available for stock, washed pulp, white water, and other process and water lines. For further information, write Johns-Manville, Box 60, New York 16, N. Y.

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville TRANSITE PRESSURE PIPE

Transite is a Johns-Manville registered trade mark

SAMUEL M. LANGSTON CO. announces the appointment of E. B. Seeger as assistant sales manager. Mr. Seeger joined the company in Jan. 1945 after having spent six years in the U. S. Navy.

E. D. JONES & SONS CO., Pittsfield Mass. will send on request a new bulletin giving design details, working drawings and photographs of their Fibremaster (R), Master Jordan and Midget Jordan. Ask for Bulletin EDJ-1035.

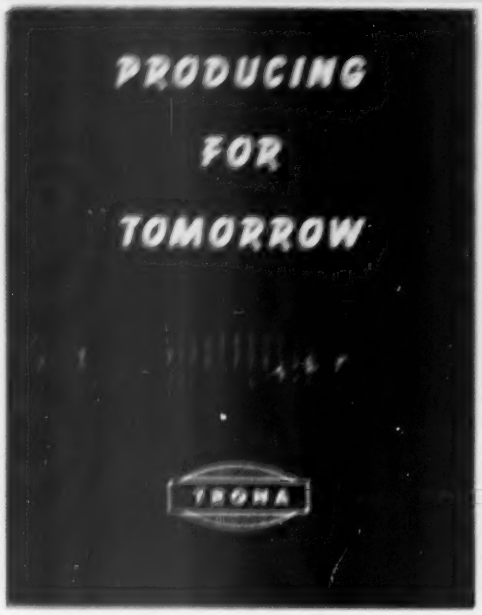
Forestry Movie

Readiness of a new forestry educational film for distribution to cooperating agencies has been announced by Henry J. Malsberger, general manager of Southern Pulpwood Conservation Association. Titled "When a Fellow Needs a Forester" the film is an excellently selected and edited version in natural color with sound of what the small landowners of the South can be told about their holdings so that they may participate in forestry gains. Those wishing a print may address Mr. Malsberger at 1506 First National Bank Bldg. Atlanta 3, Ga.

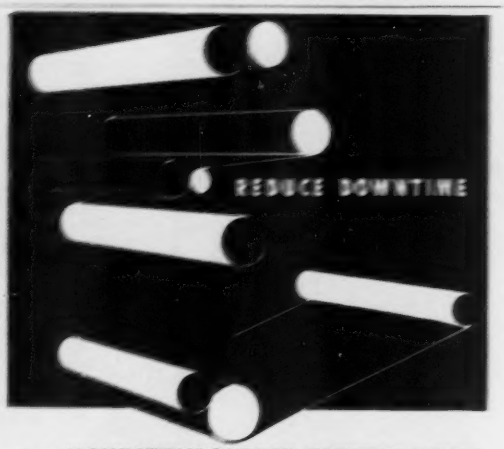
STOCK PUMPS? YES!

Ingersoll-Rand's complete line offers an economical solution to every stock pumping problem

Ingersoll-Rand



AMERICAN POTASH & CHEMICAL CORP.
3030 West 6th Street Los Angeles 54, Calif.



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Manhattan specialists are continually improving production methods and conditions in order to apply rubber covering that will meet any demand for high speed, permanent density, etc. Your costs go up when you have to stop production to change rolls. Manhattan Rolls last longer and lower your costs.

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Roll Covering Plants at Neenah, Wis.—Passaic, N.J.—N. Charleston, S.C.

RAYBESTOS-MANHATTAN, INC.
MANHATTAN RUBBER DIVISION, PASSAIC, NEW JERSEY

FIRMS YOU SHOULD KNOW

Advertising Index

For accurate, low-cost wood chip sizing . . .

the BETTER WAY is with CA

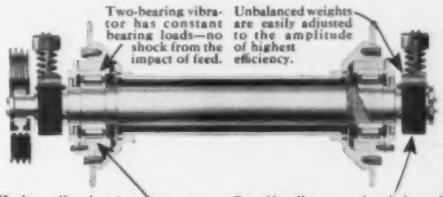
Concentric Action Vibrating Screens

At this West Coast sawmill, double-deck Link-Belt CA Vibrating Screen efficiently sizes and cleans wood chips. Belt conveyor discharges chips to trucks for transportation to the pulp mill about 25 miles away.

EVERY day more and more pulp and paper men are discovering this fact: You can't beat the Concentric Action of Link-Belt's CA Vibrating Screens for wood chip sizing.

Sharp separation of slivers and sawdust . . . high capacity . . . low power requirements—on all counts Link-Belt more than matches top screening standards.

Link-Belt CA Vibrating Screens are available from 3 x 8 to 6 x 16 ft., single-, double- and triple-deck, suspension or support mounted. For better handling of wood chips, it will pay you to come to Link-Belt.



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